ESSAYS

ON

Several Entertaining and Useful

SUBJECTS:

VIZ.

1. The Origin of Letters.
2. The Use of Glass among the Ancients.
3. On Augury or Divination.
4. On the Electricity of Human Bodies.
5. On the Office of Censor.
6. On Astronomy.
7. On Society.
8. On Insects.
9. On Christmas Day.
10. On Bees, with a Letter on the Production of other Insects.
11. On the Amazons.
12. On the Grandeur of the Great Mogul.
13. On a Burning Island in the Archipelago.
14. On the Doctrine of Expiation or Attonement among the Heathens.
15. On the Temples of the Ancients.
16. On uncommon vast Desarts, and barren Tracts of the World.
17. On the Levees of Prime Ministers of State.
18. On the Vulcano or burning Mountain *Vesuvius.*
19. On the Vulcano of *Ætna.*

By a SOCIETY *of* GENTLEMEN.

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THE PREFACE.

IT is but lately, ſince theſe Essays were publiſh'd at the Head of a Weekly Paper, which had for its Title, *The* Weekly Essay, *or* Middlesex Journal, and were intended to illuſtrate the Particulars offer'd in the Introduction, which was printed to the Firſt Number, and now makes the latter Part of this Preface.

From the Opinion of ſeveral Gentlemen of Judgment and Learning, I flatter'd myſelf of ſuch Succeſs as commonly attends Uſeful Undertakings: But finding the reaſonable Expectations as well of Them as myſelf fruſtrated, I judg'd it proper to ſuſpend the Publication of more Numbers, till ſome other Opportunity ſhould aſſure me of better Progreſs.

Perhaps I may be asked, Why I could venture to republiſh theſe Essays, after they had once been rejected by the Publick? To which I anſwer, That the Weekly Papers were ſo far from being rejected by the

Publick, that the Essays therein contained would undoubtedly have render'd themselves acceptable to all Lovers of History and Natural Philosophy, had the Distribution and Reading of them not been obstructed by the siniſter Designs of those who pretend to have it in their Power to amuse the Town with what they chuse themselves: And as the small Number disposed of was chiefly among my Friends and Acquaintance, I have been advised to offer those Essays, in a Compendious Pocket Volume, to the Perusal of the Publick; but especially to such Gentlemen and Ladies as may like the Plan, and perhaps already have, or would be willing to encourage the Continuation thereof, by becoming voluntary Subscribers, till their Number should be sufficient to support such an Undertaking against all the Attempts in Opposition to it; in which Case I should not fail to give entire Satisfaction: But without enlarging any more; the following will be sufficient to supply the Remainder of this Preface, it having been printed (as has been observed above) as an Introduction to N°. I of the *Weekly Essay*, or *Middlesex Journal*; and is as follows:

" PErpetual disputes, either upon civil or
" ecclesiastical affairs, must, at last, grow
" tiresome and cloying: For this reason, it
" has been thought that a weekly Paper,
" wherein other subjects should be treated of,
" would (at least for the sake of its novelty)
" not be displeasing, and might afford a sea-
" sonable

" ſonable refreſhment to the Public. It is in " this view that this paper is undertaken to " be written. Here will be found abſtracts " from ſcarce and valuable books, without " regard to the authors; points of Hiſtory " clear'd or illuſtrated, without alluſion to " the preſent times; The knowledge of Na- " ture, and Natural things, endeavour'd to " be made comprehenſive, eaſy and familiar, " without pedantry and affectation. The " whole, without (what is grown too com- " mon) depreciating Chriſtianity or railing " at the Government.

" And, in order to make this work more " generally uſeful, and proper for the peru- " ſal of all ranks of Men, thoſe knotty and " difficult queſtions (the reſolving of which " might probably pleaſe the learned, but that " might be a ſtumbling block to thoſe who " are intirely unacquainted with theſe mat- " ters) ſhall be purpoſely avoided, and that " method follow'd, which may bring the " Reader to a true inſight into things with " the leaſt pains. A regular or complete " Syſtem either of this or that ſcience is not " ſo much as pretended to. Such an under- " taking indeed might be of uſe to thoſe " who intend to purſue theſe ſtudies more " cloſely. But books are not wanted upon " thoſe ſubjects for the inſtruction of profeſs'd " ſcholars. This therefore is only in favour " of thoſe, whoſe thoughts have been chiefly " employ'd another way: Men of buſineſs, " who may look upon the improvement of " their underſtanding, as a more reaſonable

" recre-

" recreation, than dabbling in religious or " political controverſies; Men of leiſure, " who may think ſome part of it not ill be- " ſtow'd in the purſuit of knowledge; La- " dies, who do not take ignorance to be a " neceſſary qualification of the fair ſex, and " are of opinion it is not a greater diminu- " tion to the luſtre of their eyes, to fix them " now and then upon what may ſerve to " adorn and embelliſh their minds, than upon " an opera-ſong or a pack of cards. To " ſuch as theſe; too great a regularity wou'd " appear tireſome, and rather a toil than an " amuſement. And tho' confuſion ſhou'd " always be avoided, yet it muſt be own'd, " that nothing is ſo pleaſing as a little variety; " ſo that in the courſe of this work, when " any particular branch of learning ſhall " have been treated of, the next thing to be " conſider'd of will not always follow, but " the writer will be left at liberty either to " proceed, or to enter upon a new topic.

" To ſum up our deſign in a few words; " Whatever may be ornamental or beneficial " to mankind; whatever may ſerve to mend " the heart, ſtore the memory with matter " of fact, agreeable or inſtructive; innocently " amuſe the fancy, or cultivate and enlarge " the underſtanding, is intended to be the " ſubject of our enquiries in theſe *Weekly* " *Eſſays*. They will chiefly conſiſt in obſer- " vations upon ancient and modern Authors; " Litterature and Philoſophy; or thoſe Arts " and Profeſſions, whoſe end it is, to con- " tribute to the inſtruction or delight of " Society.

THE

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N. B. Such Gentlemen and Ladies, that already have, or are willing to encourage the Continuation of theſe Eſſays, are deſired to ſend their Names and Places of Abode to the Printer thereof.

THE

THE
WEEKLY ESSAY.

VOL. I.

N° 1. *Saturday, November* 5, 1737.

——— *Adhuc ſub judice lis eſt.*

HOR.

IT is a trite and common, but well-grounded obſervation, that whatever is grown into a habit becomes, as it were, natural to us, and a part of our very being. By this means, we are apt to miſs or feel the want of thoſe things we are us'd to when they are taken from us. But whilſt we poſſeſs them, be they ever ſo precious and valuable, we are ſubject to under-rate them, and to look upon them as things of courſe: Thus the invention of *Letters*, or art of *Writing*, by being ſo common amongſt us, is ſo little taken notice of, that not only the inventor is forgotten, but even the nation or people, among which it was firſt found out, is ſcarce known or ſought after. And yet, what more wonderful than that four and twenty characters, that bear no affinity, and have no reſemblance with the ſounds they repreſent, ſhou'd,

by being differently plac'd, ſerve to convey all our ideas! It is the familiarity, contracted from our infancy with theſe characters, that has diminiſh'd or rather taken quite away that ſurprize they wou'd otherwiſe have created in our minds. But they have had a quite different effect upon thoſe nations among whom they have been long unknown. The *Mexicans*, who before the conqueſt of their country by *Cortez* were utterly unacquainted with them, on their obſerving the *Spaniards* ſend their thoughts to one another on a ſlip of paper, were ſo amaz'd, that they concluded them to be celeſtial or infernal deities, or in plain *Engliſh*, gods or devils: And I remember to have read ſomewhere, that an Indian ſlave, being ſent croſs the country by an *European*, with a letter and a preſent to a friend of a baſket of fruit, was ſo tempted by the beauty of it, that he cou'd not help making free with it. The friend, receiving the letter without the fruit, ſoon gueſs'd how things went, and did not fail in his anſwer to acquaint the Indian's maſter with the petty larceny; who immediately order'd his ſlave a ſound drubbing. Upon this the poor fellow imagin'd that the letter was ſome intelligent miſchief-making tell-tale being, plac'd as a ſpy over him by his watchful maſter; and he fully reſolv'd to be more upon his guard on the like occaſion. It was not long before the Indian was again diſpatch'd; another baſket, another paper ſpy. The way was long and tedious, the fruit ſtill more alluring than the former time. The ſlave, thinking he cou'd chouſe his troubleſome companion the letter, hid it under a large ſtone, whilſt he ſatisfy'd his appetite; and having ſecurely eat his fill, took it up again, and continued his journey. But, what was his aſtoniſhment, when upon his return home another ſevere baſtinado convinc'd him, in the moſt feeling manner, that notwithſtanding his prudent caution all was diſcover'd? abaſh'd! amaz'd! he perſuaded himſelf that he was fallen into the hands of wizzards, and that both maſter and correſpondent dealt with the devil. For, pray?

was

was it poſſible words cou'd be expreſs'd by characters, or thoughts convey'd in a bundle? That was above his conception.

However ludicrous or trifling this little ſtory may appear to ſome people, it certainly ſerves to prove what was intended, the ſurpriſingneſs of the art of writing. As for its uſe and excellency, they are too well known to be much inſiſted on. By writing, our ideas, which otherwiſe wou'd either die and periſh with us, or be weaken'd and alter'd by tradition, are handed down from age to age, ſurvive the moſt laſting monuments, and are preſerv'd to the greateſt length of time. By writing, trade and commerce is extended, and a correſpondence kept up with the moſt diſtant countries; we converſe with the greateſt men of all nations and ages, calling them, in a manner, out of their graves, to inform and adviſe us. By writing, a man, as he ſits by his fire-ſide, can be in company and hold a diſcourſe with his friends and acquaintance in the four parts of the world; and a prince, without ſtepping out of his cloſet, can animate and give warmth to a commander that freezes under the Pole, and, in the ſame day, chear another, that is fainting under the ſcorching heat of the Line. He delineates his thought, and in an inſtant, without giving himſelf any farther trouble, it croſſes over ſea and land, goes unknown thro' a thouſand hands, and delivers his orders, and utters his intentions, to thoſe that are thouſands of miles diſtant. By writing, religion and morality, arts and ſciences, works of humour and inſtruction, are propagated among mankind and tranſmitted to poſterity. In ſhort, it is the gate to knowledge, and in this view, an account of its original and invention will not, it is hop'd, be look'd upon as an ill or improper introduction to theſe *Weekly Eſſays*, chiefly intended to render more diffuſive thoſe benefits, for which we are ſo much indebted to this art.

Plato and after him *Tully* aſcribe it to the Supreme Being, as judging it above the reach of human capa-

city; ſo aſtoniſhing it ſeem'd to them, that by the help of a few characters the ſound of words ſhou'd be reduc'd to ſhape, and the cognizances of the ear become ſubject to the eye! We ſhou'd needs acquieſce and agree to what is ſaid by theſe great men, did they mean no more than that GOD is the firſt cauſe of this, or whatever elſe is great and good, or beneficial to mankind. But, if we may have leave to judge from experience, we ſhall find that for the invention of moſt things uſeful, ſome ſecond cauſe has been conſtantly ſet to work by the ſupreme agent. Induſtry, prompted by Neceſſity, may be look'd upon as the mother of arts: Love of fame, or ſome other paſſion, might come in afterwards and lay claim to ſome ſhare in the undertaking. And it is humbly preſum'd to be out of diſpute, that *man*, without any immediate inſpiration, is the author of writing; but what man? is the queſtion? We are told by ſome indeed, tho' with what foundation I know not, that it was brought into *Aſſyria* by *Rhadamantus*, by *Memnon* into *Egypt*, by *Hercules* into *Phrygia*, and by *Carmenta* into *Italy*; and no doubt, were an *Iriſh* or *Welſh-man* to aſſiſt at the debate, St. *Patrick* and St. *Taffy* wou'd bear a conſiderable part in the controverſy.

The *Jewiſh Rabbies* tell us very gravely, among the reſt of their learned *reveries*, that the *cloud*, as they call it, of *letters*, together with the *rainbow* and *Aaron's ſtaff*, were created on the evening of the Sabbath. And one of theſe worthies has been ſo good as to inform the world, that *Adam* was the firſt *Rabbi*, as well as the firſt man; and that he wrote a very clever book, being the hiſtory of the creation; a work the moſt valuable of all for its antiquity, that wou'd have produc'd numbers of labour'd *folio-commentaries*, the loſs of which can never be ſufficiently lamented!

But to be ſerious. The only tolerable reaſon mention'd in favour of *Adam*, or indeed any of the *Antediluvians*, is this; that it is not likely that men, abound-

abounding in leiſure and bleſs'd with an extraordinary long life, ſhou'd not hit upon proper means to deliver down their inventions and inſtructions to poſterity. But to one that conſiders theſe things rightly it will methinks rather appear, that their leiſure muſt have been chiefly employ'd in things abſolutely neceſſary, ſuch as building, tilling, gardening, and the like. And their long life, together with their making uſe of the ſame language, and forming but one or ſeveral great families, that kept pretty much together, made the want of characters to communicate their thoughts, ſcarce perceivable; eſpecially ſince oral tradition was ſo eaſy to be preſerv'd amongſt them thro' ſo ſmall a number of generations. For during the ſpace of 1651 years, there was but nine generations; and *Noah*, the youngeſt of the Patriarchs before the flood, might have ſeen and convers'd with *Enos*, *Adam*'s grandſon. So that we muſt go lower for our intended diſcovery. There are Authors that will have it that *Abraham*, others that *Moſes*, or one of the *Hebrews*, is the inventor of this excellent art: but as there is not the leaſt ſhadow for ſuch a conjecture in Holy Writ, we muſt beg leave not to be of their opinion.

The *Aſſyrians* or *Babylonians* next lay claim to that honour. It is alledg'd, they were acquainted with *Aſtronomy* long before any other nation; a ſcience they cou'd not well practice without the knowledge of letters; and it is farther urg'd that the aſtronomical obſervations, preſerv'd by the *Chaldeans* at *Babylon*, and ſent to *Ariſtotle* by *Calliſthenes*, who accompany'd *Alexander the Great* in his conqueſt of *Aſſyria*, began ſo high as 1903 years before that expedition, that is, in the year of the world 1770, or 114 years after the flood. But for this, we have only *Simplicius* his word, which, in ſo doubtful a caſe, cannot ſo well be depended upon. Beſides, among ſo learned a body as the *Chaldees*, figures and numbers alone, join'd with their inſtructions by word of mouth, were ſufficient to preſerve their obſerva-

tions.

tions. All them that have any notion of thoſe ſciences that are nearly related to the Mathematics, very well know that they require leſs writing than any other; and I have been credibly inform'd that an *Engliſhman* well vers'd in thoſe ſtudies, without underſtanding one word of *French*, made himſelf maſter of L'Hopital's Conic Sections by the help of the ſchemes, before ever that book was tranſlated.

It may be farther added, that upon a ſtrict ſearch it will be found, that the *Aſſyrians*, in general, were very little given to ſpeculation. They were rather of a turbulent nature and military genius, bent upon ſpoils and conqueſt, and moſt commonly involv'd in civil commotions, war, and blood-ſhed. Their kings, the fondeſt of any of abſolute ſway, and ſeldom conſulting the good of their ſubjects, following the example of their firſt predeceſſor and founder of their empire, *Nimrod* or *Ninus*, made their glory conſiſt, rather in extending their limits and making a havock of their fellow-creatures, than in governing with juſtice or being the patrons of learning. Thoſe among them, that had underſtanding and courage, employ'd both in a bad cauſe. The reſt ſunk in ſloth and luxury, like a *Turkiſh* Sultan in his ſeraglio, ſpent their life in eaſe and pleaſure; and if they encourag'd their Aſtronomers or *Magi* in the ſtudy of the heavens, this proceeded, either from a ſuperſtitious belief that they cou'd read in the ſtars the good or bad ſucceſs of their undertakings, or from the political uſe they ſometimes made of their predictions. Now, unleſs the advocates for the *Aſſyrians* have ſomething ſtronger to advance on their ſide, they may throw up their brief and diſmiſs their clients.

Next come the *Phenicians*, uſher'd in by a numerous croud of *Greek* and *Latin* Authors *, and among others *Lucan*; witneſs this beautiful paſſage in his *Pharſalia*.

* *Pliny*, *Q. Curtius*, *Critias*, quoted by *Athenæus*, *Plutarch*, &c.

Phœ-

Phœnices primi, famæ ſi creditur, auſi
Manſuram rudibus vocem ſignare figuris.

Paraphras'd in this manner by the late ingenious Mr. *Rowe*,

Phenicians firſt, if ancient fame be true,
The ſacred myſtery of Letters knew;
They firſt by ſound in various lines deſign'd,
Expreſt the meaning of the thinking mind;
The pow'r of words by figures rude convey'd,
And uſeful ſcience everlaſting made.

and render'd ſtill more happily in *French* by *Brebeuf*; and as his tranſlation of theſe verſes has been reckon'd by men of ſome taſte to exceed *Lucan* himſelf, I ſhall make bold to ſet it down here.

C'eſt de lui * que nous vient cet art ingenieux
De peindre la parole, & de parler aux yeux,
Et par les traits divers de figures tracées
Donner de la couleur & du corps aux penſées.

But without troubling the reader with needleſs quotations, I believe I may venture to affirm, that the moſt that can be prov'd from them, is that *Cadmus*, a *Phenician*, was the firſt that brought writing characters into *Greece*. Now, to conclude from thence that he was the inventor of them, is as childiſh an argument, as that of little maſter or miſs wou'd be, were they to be poſitive that the original of Letters was owing to the purblind old woman in the court, becauſe ſhe taught them their horn-book and primmer.

The laſt I ſhall mention (and I am afraid I have treſpaſs'd too much already upon the reader's patience) are the *Egyptians*, from whom, as much as may be gather'd from the records of thoſe ancient but fabulous times, all nations have borrow'd whatever is reckon'd agreeable or advantageous, either in public or private life.

* *Cadmus.*

That

That wiſe people, as it plainly appears both from prophane and ſacred writers, * did not boaſt of their antiquity without foundation. By antiquity, I mean that they were the firſt, or at leaſt one of the firſt, that incorporated or join'd in a great ſociety for their mutual ſupport and defence. The natural ſituation of the country they found themſelves in, or made choice of, was extremely proper for ſuch an undertaking. It was prodigiouſly fruitful; and the neighbourhood both of the *Red* and *Mediterranean* ſea, the river *Nile*, that croſs'd it, from ſouth to north, in it's greateſt length, as well as the artificial channels, that were dug on purpoſe to receive and diſtribute its waters, made all manner of commerce and intercourſe very ſpeedy and eaſy, excepting only the Iſthmus of *Suez*, not at all difficult to be guarded; the two ſeas juſt mention'd, together with the deſarts of *Lybia* and the *Ethiopian* ſands, ſurrounded it on all ſides, and ſecur'd it from any ſudden invaſion.

The overflowing of the *Nile*, which overturn'd the bounds and land-marks, in uſe among the *Egyptians*, in ruder ages, made it abſolutely neceſſary for them to find out juſt and exact meaſures, in order to diſtinguiſh, each man, his own property or inheritance after the waters were runn'd off. Theſe were the firſt beginnings of Geometry, that ſure and unerring guide to moſt arts and ſciences; and this, together with their living under an open and clear ſky, in a flat champian country, where no hills nor woods intercepted the ſight, ſoon brought them acquainted with Aſtronomy, in which they very early made great progreſs. And were this the place, it might be prov'd, that the *Chaldeans* in *Babylon* were colonies of the *Egyptians*, and † that they became famous in Aſtrology, having learnt it from the *Egyptian* prieſts; who in the beginning of the reign of *Nabonaſſar*, king of

---

* *Pentateuch, Diodorus Siculus, Pauſanias, &c.* † *Diod. Sic.* l. 1. p. 51. *Joſeph. Antiq.* l. 1. 4.

Babylon,

Babylon, about which time the *Ethiopians* under *Sabacon* invaded *Egypt*, fled from him to *Babylon*, carried thither the *Egyptian* year of 365 days, and founded the *Æra* of *Nabonaſſar*, dating it from the firſt year of that king's reign. * Add to this, the wiſdom of their laws, and the excellent frame of their government, and you will not be ſurpriz'd if they were ſome centuries before-hand, in the knowledge of all the arts of peace. Witneſs only, to omit a thouſand other inſtances, thoſe ſtupendous pyramids, which are ſtill to this day, equally the wonder of every gazing traveller, and of the moſt diſtinguiſhing and critical obſerver.

Their great application to learning ſoon put them upon finding out ſome characters to preſerve it. The firſt they made uſe of, as the moſt obvious and natural, were *Hieroglyphics*, or ſuch figures of birds, beaſts, and other ſenſible things as they intended to ſpeak of, or that did bear ſome reſemblance with the thought they had a mind to expreſs. This, no doubt, was at the ſame time, not only a very difficult and laborious, but a very imperfect way. For firſt, in order to write, a man muſt have had a tolerable notion of drawing. Then, for a diſcourſe of any length, not to mention the impoſſibility of drawing the little connexions of ſpeech, or of giving the picture of a conjunction or an adverb, a vaſt number of characters or various repreſentations muſt needs have been requiſite, in a language in which ſo many different ſubjects were to be treated of. So that to make one's ſelf *maſter of reading* among them, muſt have taken up a great deal of time; and it is to be ſuppos'd that it was then with them, as it is at preſent with the *Chineſe*, where a man, that knows all his Letters, is reckon'd to have more than a moderate ſhare of learning.

* *Newton's Chronol.* p. 25.

But as all arts are improv'd and brought to perfection by time, ſo it is eaſy to imagine was this of writing. Experience ſoon taught the *Egyptians* the inconveniency of their hieroglyphics, and patience and labour the uſe of characters, both leſs numerous, and more plain and eaſy. So their hieroglyphics were ſet aſide, ſave only among the prieſts, who ſtill continued to hide under them the myſteries or rather abſurdities of their religion. This may be drawn, partly from hiſtory, partly from conjecture; of the probability whereof we muſt leave the judgment to the reader. What ſeems to ſtrengthen what has been advanc'd upon this head is, that the ancient *Egyptian* Letters were not unlike ſome of the favourite hieroglyphics they at firſt made uſe of, and one may diſtinguiſh in the ſhape of ſome of theſe letters ſomething that reſembles the head of an Ibis, an Ox, a Hawk, and other conſecrated animals of *Egypt*. Now, ſince the *Egyptians* were undoubtedly the firſt that made uſe of hieroglyphics, or emblematical repreſentations; ſince that their application to learning and their fondneſs to preſerve the hiſtory of their country, made them very ſenſible of the want of more eaſy and more compleat characters, is it not very reaſonable to ſuppoſe them to be the true inventors of ſuch characters, that is, Letters?

The *Hebrews* afterwards coming into *Egypt*, where they remain'd fixt and ſettled for ſome generations, had during ſo long a time opportunities enough of improving themſelves in moſt of thoſe arts that flouriſh'd there, and *Moſes*, in particular, *was learned in all the wiſdom of the Egyptians* *. So that no queſtion can be made of their attaining ſo uſeful and neceſſary a knowledge as that of Letters, the firſt of all, and as an introduction to the reſt. It is very remarkable that there are not the leaſt footſteps of

* *Acts*, VII. 22.

writing

writing among the *Jews*, nor the leaſt hint about it in Holy Writ, till the time of *Moſes*, that is, till their having dwelt ſome conſiderable time in *Egypt*. For the book of the wars of God, quoted in Scripture, was undoubtedly written during their ſojourning in that country, and probably deſcrib'd ſome military expedition or exploit, belonging to that part of hiſtory, of which there is no account given in Holy-Writ, and which includes that ſpace of time, ſpent between the death of *Joſeph* and the birth of *Moſes*. Had *Adam*, had *Noah*, had *Abraham*, had the inhabitants of *Chaldæa* or *Aſſyria*, where that patriarch was born and educated, diſcover'd the art of writing; wou'd not ſome mention be made of it in Scripture before *Moſes*? Wou'd the wills and prophecies of the patriarchs have been by word of mouth only? their hiſtory and religion deliver'd down only by tradition? their contracts and alliances confirm'd and ratify'd only by heaps of ſtone? No monumental inſcriptions to preſerve the memory of the dead, or to aſcertain the truth of paſt events! What? had they been acquainted with writing, wou'd they not have ſet down ſome of the moſt memorable circumſtances of their own hiſtory, ſome of the moſt remarkable events in their own time? Wou'd not *Moſes* have refer'd to ſuch ancient, to ſuch authentic memoirs? Yes ſurely! and their not having done it is a proof that it was not in their power. From theſe conſiderations, I think it plainly appears, that the *Egyptians* were the maſters of the *Hebrews* (who by the by where wholly employ'd before in tending their flocks) in moſt arts, but eſpecially, in this of writing.

The *Iſraelites*, being put in poſſeſſion of the Land of *Canaan* or *Paleſtine*, might communicate it to their neareſt neighbours, the *Phenicians* or *Tyrians*; unleſs we ſuppoſe that this people, who drove the moſt conſiderable trade of any at that time, and ſent ſhips to all parts of the then known world, learnt it themſelves of the *Egyptians*, from whom they were

at a very inconſiderable diſtance, eſpecially by ſea, and with whom, for ſome time, they were very cloſely united; theſe latter being thought to have given them ſome port or harbour upon the Red ſea, to enable them the better to carry on their traffic. Let that be as it will, the *Phenicians*, together with their commerce, carry'd Letters into *Greece*. Hence the celebrated ſtory of *Cadmus*, whom the poets have dreſs'd up in their fictions, as a dragon-killing romantic hero; tho' ten to one, was the truth well known, he wou'd prove to be the maſter of ſome *Phenician* merchantman, or at beſt, the captain of a *Tyrian* privateer. The *Greek* colonies in *Italy* taught it the *Romans*, and from theſe three nations, I mean, the *Phenicians*, *Greeks*, and *Romans*, at different times and in different parts, the reſt of mankind has learnt the uſe of Letters.

Now, if we will but take the trouble to conſider with ſome attention what has been ſaid upon this ſubject, it will be eaſily ſeen that thoſe, who were the firſt civilis'd and cultivated with ſucceſs the liberal arts, were alſo the firſt that diſcover'd that, without which the reſt of their diſcoveries cou'd hardly have been preſerv'd, or imparted to others; that from rude beginnings they brought it at laſt to perfection; and that both the people choſen to maintain and, propagate religion and morality intire and uncorrupted, and that, whoſe extenſive trade and univerſal correſpondence made the fitteſt to ſpread and diffuſe every where ſo good an invention, were the firſt that receiv'd it at the ſpring head, or from the inventors themſelves.

Theſe, I preſume, will be found, upon the ſtricteſt inquiry, to be the occaſional cauſes Providence has been pleas'd to make uſe of, to commit ſo uſeful an art and beſtow ſo great, ſo ineſtimable a bleſſing upon human-kind.

N° 2. *Saturday, November* 12, 1737.

——— *Fluviumque liquentem.*

VIRGIL.

AMONG thoſe ſeveral diſcoveries for which we are indebted to the ancients, and that conduce ſo much to the pleaſures and conveniences of life, there are few more valuable than the invention of Glaſs Its beauty and the different numberleſs uſes it can be put to; its fuſibility which makes it ſo eaſy to be work'd upon, and capable of ſo many various ſhapes and mouldings, but chiefly its tranſparency, are ſo well known and ſo remarkable, that it wou'd be needleſs to dwell upon them. I may perhaps, ſome time or other, endeavour to give a particular account of the manner in which it is made, and trace this part of our manufactures in all its branches, from its firſt droſs and melting, to its receiving a new being, and, under the figure of a bright poliſh'd pier-glaſs, adorning the manſions of the fair, and the palaces of the great. At preſent, I ſhall confine my ſelf to the chief uſes, that were made of it by the ancients; after having firſt ſaid a word or two of its diſcovery, as we find it in *Pliny*.

If we may credit this author, it is intirely owing to chance. Some merchants, coming thro' *Phenicia* with their cargo of nitre, being about dreſſing their victuals upon the borders of the river *Belus*, and finding no ſtones to raiſe their trevets, it came into their head to put under them, inſtead of ſtones, lumps

lumps of nitre. This preſently took fire, mixt and incorporated with the ſand, and ran into little ſtreams of a tranſparent liquor, which ſoon after, coming to ſettle or congeal, directed them to the method of making Glaſs, which has ſince been brought to a much greater degree of perfection. This diſcovery may be plac'd about a thouſand years before the birth of Chriſt.

In a book, falſely attributed to St. *Clement*, mention is made of glaſs columns of a prodigious height and ſize. * But the moſt famous piece of workmanſhip, whereof Glaſs may be look'd upon as the chief material, is the celebrated theatre of *Scaurus*, who during his *ædile-ſhip*, caus'd to be built the moſt magnificent ſtructure that was ever rais'd by hand of man. This was a theatre, the *ſcene*, or ſtage whereof, was three ſtories high, and adorn'd with 360 columns. The firſt ſtory was intirely of marble, the ſecond all over incruſtrated or lin'd with a *glaſs moſaic*; a piece of finery, till then, unknown, and never imitated ſince. The third and laſt was a gilt wainſcot. The columns of the firſt ſtory were 38 foot in height. Three thouſand brazen ſtatues, plac'd between the pillars, made this ſtage the moſt ſumptuous and noble, as well as the moſt coſtly in the world.

Beſides this grand and unuſual manner of employing Glaſs, the ancients, as well as the moderns, made uſe of it in common life: It ſerv'd for a *Greek* or *Roman* beau to admire himſelf in, as well as for one of a later date. The *Roman* matrons practis'd before it the ſame arts as the *Engliſh* Ladies, and took as much pains to extend their conqueſts by beauty, as their husbands by the ſword. The uſe of looking-glaſſes may be chiefly gather'd from *Pliny*, † who informs us, that in ancient times no city was in ſo high

* *Recogn. S. Clement.* VII. 13.
† *Hiſt. Nat.* XXXVI. 26.

repute,

repute, as that of *Sidon*, for the art of making Glaſs; and that, at this place, was firſt diſcover'd the ſecret of making looking-glaſſes. And ſome lines lower, ſpeaking of black Glaſs made in imitation of jet, he tells us, that ſome of theſe were plac'd among the common clear pier-glaſſes, on purpoſe to diſappoint thoſe that came to admire themſelves; who, inſtead of their own dear perſon, were preſented with nothing but an imperfect ſhadow; for ſuch it ſeems was the effect produc'd by theſe dark looking-glaſſes.

We learn from the ſame author that glaſs was not one of the leaſt ornaments of their ſide-boards, and that under the reign of *Nero*, were firſt made jarrs and cups of white Glaſs of great tranſparency, perfectly imitating rock chryſtal. This kind of ware, chiefly imported from *Egypt* and eſpecially from *Alexandria*, was very much valued at *Rome*, and bought at a very dear price by the great men there.

Glaſs found a place even in the libraries of the ancients, one of the chief ornaments whereof was the glaſs ſphere, or celeſtial globe, invented by *Archimedes*, that ſerv'd to repreſent the apparent motion of the heavens. And it is not improbable, notwithſtanding the common opinion is againſt it, that the uſe of teleſcopes, or perſpective glaſſes, was not unknown to them. As a proof of this, is quoted the following piece of hiſtory; that a king of *Egypt*, one of the *Ptolemies*, had built a tower, or obſervatory, in the ſame iſland, where had been rais'd the light-houſe, or pharoah of *Alexandria*: And that from the top of this tower cou'd be diſcover'd, at the diſtance of ſome hundred miles, the enemy's ſhips, if at any time they had attempted to make a deſcent upon the coaſt. Now, this wou'd be quite impracticable without the help of teleſcopes.

But Glaſs was not wholly appropriated to theſe ſpeculative or ſerious employments. It was made uſe of for bodily ſports and exerciſes, as in the game of

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the glaſs-ball, *vitrea pila*. Thoſe, who diverted themſelves with this brittle plaything, held both their hands up, one to catch the ball that was thrown to them, and the other to toſs it back again. So that all the merit of this game conſiſted in being very alert and ready, leſt this ball ſhou'd fall to the ground; for this prov'd the loſs of the game: The inventor whereof was a *Roman*, one *Urſus Togatus*, whoſe name it was thought worth while to hand down to poſterity by an inſcription, which is to be found in *Gruterus* his collection. The game of cheſs is ſo univerſally and ſo juſtly admir'd, that I ſhall not ſcruple to obſerve, that according to the beſt authors, the cheſs-men the *Romans* play'd with were chiefly of Glaſs.

The art of painting upon Glaſs that flouriſh'd amongſt us ſome centuries ago, and of which there are ſtill very fine and beautiful remains extant upon the windows of ſome of our old chapels and cathedrals, was not unknown to the ancients. They painted it in all manner of colours, and thereby perfectly imitated moſt kinds of precious ſtones, as *Pliny* ſomewhere informs us in expreſs terms.

We have hitherto ſeen, that Glaſs had a ſhare in the recreations of the ancients, that it help'd them to ſet off their perſons, and to adorn their houſes and ſide-boards, that it was inſtrumental in improving their ſtudies, and was of ſervice in moſt circumſtances in life. But its uſes do not end here; it follow'd them to the grave, and both among the heathens and primitive chriſtians, made part of the funeral ſolemnities. Few ancient ſepulchres have been open'd, but what were found in them lachrymal urns, or ſmall veſſels, generally of Glaſs, wherein, as it is ſuppos'd, were contain'd the tears ſhed by the *Romans* at the departure of their friends and relations: Theſe they were very careful of depoſiting in the ſame grave with the dead. After the eſtabliſhment of Chriſtianity, there was no farther uſe for theſe urns, altho' glaſs-

glaſs-phials are ſometimes to be found in the tombs of martyrs. But in theſe it is pretended was collected the blood, they had ſpilt, in aſſerting the truth of the Chriſtian faith.

As for glaſs windows, ſuch as ours are at preſent, we may conclude from their being mention'd by St. *Jerome*, that they were in uſe in the fifth century. Before that time, the *Romans* made their windows, and the glaſſes of their litters, of what they call'd *lapis ſpecularis*; about which the learned are very much divided in their opinions. Without entering into a diſpute upon this ſubject, that wou'd afford but little pleaſure and leſs inſtruction, it will be ſufficient to obſerve, that this *lapis ſpecularis* was moſt probably that kind of ſtone, call'd *Talc* or *Iſinglaſs*; not the common ſort, that is to be found in moſt quarries, but that which is perfectly white and tranſparent, and that ſome parts of *Muſcovy* abound with. *Seneca* ſpeaks of theſe kind of windows, as of a thing of long ſtanding in his time; from whence it may be preſum'd that they had been in faſhion, before the overthrow of the common-wealth.

It will perhaps be expected that ſomething ſhou'd be ſaid here concerning the *malleability* of Glaſs, mention'd by ſome of the ancients. By ſaying that Glaſs is *malleable*, it is meant that it is capable of being wrought into ſhape with a hammer, like gold, ſilver, braſs, and other metals. But, as this is contradictory to the principles of natural philoſophy, ſo, it may be look'd upon, as one of thoſe fabulous ſtories, that men of more reading than judgment have impos'd upon the world. There is nothing to be found about it in any author of an older date than *Pliny*. *Dio. Caſſius*, and ſeveral others, have only copied after him, each adding ſome new circumſtance of his own invention. So that indeed what they advance can have no weight. They are only, if I may ſay it, the *echoes* of *Pliny*, who himſelf does not diſown

that this was only a vulgar rumor, that had little or no foundation. As for the ſtory, concerning it, related by *Petronius*, that ſurely cannot be thought to deſerve any credit, for the whole performance of that pleaſing lively author, what is it, but a ſatyrical romance? Beſides, in whoſe mouth does he put this ſtory? why; in that of *Trimalchio*, the maſter of the feaſt, an ignorant blundering coxcomb, who had already been entertaining, over his cups, a drunken crew of fawning paraſites and credulous boobies, with the greateſt abſurdities imaginable; ſuch as telling them, that *Corinthian* braſs was firſt diſcover'd by *Hannibal*; a cunning fellow, ſays he, who upon taking *Ilium* made a large bonfire, in which were thrown, by his order, all the ſtatues of braſs, gold, and ſilver, that were to be found in this great city. Of all theſe metals thus mixt and melted down together, the braſiers made pots, pans, and little images. This gave birth to Corinthian braſs, one out of all, neither that, nor t'other.

Thus far *Trimalchio*, an upſtart rich rogue, whoſe awkward pretenſions to learning, *Petronius*, who perhaps had *Nero* himſelf in his eye, or ſome of that emperor's favourite bonds-men, ridicules with a good deal of humour. He then makes him go on with his ſtory concerning the *malleability* of Glaſs, which, as it has been ſeriouſly quoted by ſome very grave authors, I ſhall venture to ſet down here.

There was, continues *Trimalchio*, an artiſt, who made glaſs cups of ſo great a compactneſs, that they cou'd no more be broke, than if they had been of gold or ſilver. Now, having finiſh'd a moſt beautiful piece of workmanſhip of this kind, which he judg'd none under the emperor to be worthy of, at his own requeſt, he was admitted with his gift, into the preſence. The beauty of it was admir'd, the ſkill of the artiſt commended,

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and the reſpect of the donor graciouſly accepted. He, that he might turn the admiration of the ſpectators into down-right amazement, and obtain a ſtill greater ſhare in his ſovereign's favour, took the cup out of the emperor's hand, and threw it down upon the pavement, with ſo much force, as wou'd have broken the thickeſt and ſtrongeſt of braſs-metals. At this ſo ſudden a flight, the emperor was no leſs ſhock'd than aſtoniſh'd. The fellow took up the cup which was not broken, but bruis'd; as if the ſubſtance of braſs had put on the appearance of glaſs. Then pulling a hammer out of his boſom, he fell to work upon the glaſs, and with repeated blows mended it, with as much exactneſs, as if he had only been repairing the bruiſes of a common braſs kettle. This done, he imagin'd he had reach'd the higheſt heavens, in that his deſerts would be rewarded by the compliments of the whole court, and the particular regard of the prince himſelf. But it happen'd quite otherwiſe; for the emperor aſk'd him, if any other knew his ſecret; and upon his anſwering in the negative, he preſently order'd his head to be ſtruck off; ſaying, that were once ſuch a ſecret divulged, gold and ſilver would grow as common as dirt.

I ſhall conclude this paper with obſerving for the ſake of thoſe among my readers, who are not ſo well vers'd in hiſtory, that that noble mixture abovemention'd, ſo celebrated among the ancients by the name of *Corinthian* braſs, was owing to the following cauſe.

Mummius a *Roman* conſul, having beſieg'd *Corinth*, one of the moſt flouriſhing cities of *Greece*, and taken it by ſtorm, the beſt part of it was conſum'd by fire, either deſign'd or accidental. Some time after, among the rubbiſh was found great quantities of this new unknown metal, produced, as it was thought, by the violence of the flames, which had melted, and thoroughly mixt vaſt num-

bers of braſs and ſilver ſtatues and utenſils, in which this famous city very much abounded. This happened in the third year of the 158th *Olympiad*, 145 years before the birth of *Chriſt*.

N° 3. *Saturday, November* 19, 1737.

——— *Mirum unde, ſed olim*
Hic honor alitibus.

STATIUS.

NOtwithſtanding the propagation of true religion and true knowledge amongſt us, that has baniſh'd a good many of thoſe idle fears concerning witches, ſpirits, and the like imaginary beings; there ſtill remains a craving ſuperſtitious kind of deſire of prying into futurity. This, as much an abuſe as it is, is however ſo far ſerviceable to ſociety, as to furniſh a comfortable livelihood to thoſe retailers in divination, who otherwiſe would probably be, literally ſpeaking, picking their neighbours pockets, or infeſting the highways, to the great terror of his majeſty's ſubjects. As for thoſe voluntary bubbles, who ſuffer themſelves to be impos'd upon by ſuch ignorant and profligate pretenders to prophecy, I cannot help looking upon them with a mixture of ſcorn and pity, when I ſee them proſtitute their faith and reaſon in ſo ſhameful a manner.

But ſince there are ſuch people in this enlightned age, it is no great wonder that the ancients, who tho' they had carry'd to the higheſt pitch moſt

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practical arts and ſciences, were nevertheleſs involv'd in the darkeſt ignorance in relation to religion and philoſophy, ſhou'd blindly truſt their *Augurs* and ſoothſayers. It is true, they carry'd this ſo far, that the wiſeſt among them were determin'd by the croaking of a crow, or the manner of flying of ſome ſilly fowl, in things of the greateſt moment, and matters of the utmoſt conſequence. An honeſt citizen cou'd not make his will becauſe he had ſeen a black dog, nor a bridegroom careſs his bride becauſe he had heard the ſqueaking of a weazel. The omiſſion of the leaſt ceremony, in inſpecting a flight of birds, was deem'd ſufficient for a conſul to lay down his office; and a general of the greateſt experience and reputation did not dare to lead the braveſt and beſt diſciplin'd ſoldiers to battle, if the conſecrated chickens happen'd to be troubled with the pip, or want a ſtomach to their barley. This maſter-piece of juggling was manag'd by the prieſts, ſupported and countenanced for reaſons of ſtate by the legiſlature, and thro' fear conniv'd at, or at leaſt not publickly diſavow'd, by philoſophers. There is ſomething ſo odd in this ſuperſtition, that I imagine an inquiry into the birth and riſe of it will be no bad ſubject for this week's paper.

The *Romans*, who made ſo great a uſe of *Augury* (for by this name was call'd this art or ſcience of foretelling future events by the feeding, flying or ſinging of birds) were not the inventors. It can be prov'd from their own hiſtory, that they had learnt it from the *Tuſcans*, or inhabitants of *Etruria*; whither, as ſoon as they were acquainted with the rudiments of this art, they made it their practice to ſend ſix patricians youths, or young noblemen, to be early inſtructed in the ſecrets and principles of it. The invention is aſcrib'd by the *Tuſcans* themſelves to *Tages*, a kind of demi-god, of whom they tell an odd kind of

of ſtory. That he was found ſleeping under a clod of earth, that was accidentally turn'd up by a plough-ſhare.

Had one a mind to humour thoſe, that are for diſcovering myſteries and allegories in all ancient fictions, even the moſt abſur'd; it wou'd be no very hard taſk to find a proper moral couch'd under this fable. The knowledge of heavenly things is not to be obtain'd by ſuperficial attempts; the difficulties, that attend it, are repreſented by the clods of earth; the pains and labour, requiſite to overcome them by the plough, drawn by the patient ox; and divine knowledge itſelf, by the ſleeping hidden demi-god. An adept in this way wou'd certainly find out here a great many under-truths, ſubordinate to this general one. But thoſe are things too deep and profound for me to meddle with.

Thoſe that place as high as they poſſibly can, the original of all things whatever, go back as far as *Adam* for this, as well as for the art of writing. The firſt man, ſay they, was perfectly well acquainted with all ſorts of creatures, and ſurely well underſtood their language; he reaſoning with them, and they with him. They add, that from father to ſon, it came down to *Noah*, a mighty aſtrologer in their opinion, who when he ſent forth the raven and dove out of the ark did this, no doubt, according to the exact rules of *ornithomantia*, or bird-divination; from *Noah* to *Ham*, famous for his ſkill in the occult ſciences, and known all over the world under the various names of *Saturn*, *Pan*, and *Zoroaſter*; and laſtly, from *Ham* to the celebrated *Tages*, who as they tell us, was his great grandſon, otherwiſe call'd *Maloth*, by whoſe channel this uſeful and diffuſive ſcience, like a fruitful river, ſpread itſelf all over *Europe*. So far the authentic memoirs of the reverend *Rabbies*.

How-

However, as an undeniable proof of the great antiquity of this ſuperſtitious fraud, it may be urg'd that it is forbidden and condemn'd in ſcripture. For we read [a] among the names of other impoſtors and deluders of the choſen people, that of the *bird-diviner* or *Augur*. For by this word, moſt interpreters have agreed to render the word *menacheſh* [b] in the original *Hebrew*. And altho' the word *nachaſh* [c] from which this is deriv'd does not ſignify a *bird*, but a *ſerpent*, this tranſlation may ſtill be depended upon: For, in divination, there was a promiſcuous uſe both of ſerpents and birds; and the Latin name of *Augur*, as well as that which anſwers to it in *Greek* [d], was equally apply'd to both theſe kind of preſages.

But upon what foundation this ſtrange prepoſſeſſion was built, is not very eaſy to determine. Had the maſters of this art been content to aſſert, that birds, as well as other creatures, have a kind of language of their own, or ſome manner of ſigns, whereby they impart, to one another, ſuch things as may ſerve for the propagation of their ſpecies, and their reſpective well being; this indeed might deſerve ſome credit, and might be confirm'd and juſtify'd by numbers of facts and experiments, well known to thoſe who have ſtudied nature. But to pretend that they ſpeak to us, that they adviſe, threaten or encourage us, to liſten to them, as to *the organ of the gods* (to uſe an expreſſion of one of theſe gentlemen [e]; to look upon them as prophets and living oracles, anſwering preciſely the very thoughts of thoſe who conſulted them; this is really ſuch a childiſh extravagant notion, that one can hardly imagine mankind cou'd have been ſo long infatuated with it.

(a) *Deuteron.* XVIII. 10. (b) מנחש *Sept.* οἰωνιζόμενος
(c) נחש. (d) οἰωνὸς. (e) *Rhodig.* VIII. 12.

Thoſe

Thoſe among the ancients who have endeavour'd to give ſome reaſon for it, differ very much about the matter. Some of them ſay it was owing to an occult quality, or peculiar inſtinct, birds were endow'd with by the author of nature. Others believing the *Metempſycoſis* or tranſlation of the ſoul out of the body of a man into that of a brute, look'd upon theſe and moſt other creatures as having rational faculties, or as men who had only loſt their ſhape. But moſt were of opinion, that the *feather'd kinds* ſoaring far above the earth, the innocency or harmleſsneſs of their lives, the pureneſs of the air they breath'd, their nearneſs or proximity to the heavens, gave them a more ſubtle ſenſation, and enabled them to penetrate much farther than men into future events.

——————— *Seu purior axis*
Amotumque nefas & rarum inſiſtere terris
Vera docent. ——— [f]

Thoſe, who ſpoke more reaſonably upon this ſubject [g], fairly own'd that theſe pretended prophets, like moſt others, went on prophecying, without underſtanding or knowing what they were about; that they were only *brute* inſtruments in the hands of the ſupreme being, who guided their flights and other motions in ſo ſure a manner, that thoſe, who conſider'd them with due attention, might from thence draw unerring rules, for the future conduct of their lives, in what circumſtance ſoever.

But, of all ancient authors, *Tully* is the only one, who has deliver'd himſelf upon this ſubject in a free, open, and candid manner: And of all others, none ſurely was ſo well qualify'd as him-

(f) *Stat. Theb.* (g) *Macrob.* in ſomn. Scip. I. 19. *Am. Marcel.* l 21. initio.

ſelf

ſelf to inform us of the true ſtate of the queſtion. As he had been choſen into the College of *Augurs*, he, as one of the fraternity, had been let into their moſt hidden ſecrets. He had numberleſs times been preſent at the ſeveral experiments daily made, both in regard to public and private affairs. He had had all opportunities imaginable of getting a full and exact inſight into this ſcience; and that he was a complete maſter of it appears from his two books *de Divinatione*; wherein nothing is wanting that can be alledg'd either for or againſt it. In the firſt book, his brother *Quintus* is introduced, as the advocate of the cauſe, and one fully perſuaded of the truth of it.

He forgets nothing as may ſerve to authorize Augury. Antiquity, tradition, revelation, univerſal uſe, examples, all is brought in; till, at laſt, being preſs'd by the *Epicureans* to eſtabliſh a natural and ſolid connexion between the motions of birds and the inductions drawn from thence, he frankly owns his ignorance, inſiſting only upon matters of fact, and that this ſcience, like Phyſic, was founded upon repeated experiments, where reaſon had little or no ſhare.

But the moſt entertaining part is that, which *Tully* has taken upon himſelf in the ſecond book; where, confuting his brother, he makes a jeſt of the whole profeſſion, and by the moſt convincing reaſons, proves to a demonſtration, how eaſily the little fallacies of this art might be detected; its uſeleſsneſs, its falſity, its contrarieties, its impoſſibility. But we will wave his arguments, leaſt they ſhou'd lead us too far, and conclude by two conſiderations, wherein, it is preſum'd, will be comprehended the moſt probable cauſes that can be aſſign'd for this ſtrange ſuperſtition.

Every one knows, that formerly among the ancients, and even to this day among the moderns (witneſs the Jury that not long ſince toſs'd up on

which ſide they ſhou'd give their verdict) the moſt uſual way, to determine things of a dubious or hazardous nature, was a kind of appeal to fate, by caſting of lots, or ſome ſuch device. Thoſe of a more lively diſpoſition, that they might the ſooner get rid of their uncertainty, made uſe of the firſt thing that came in their way, as a ſtraw or a pair of dice. But thoſe, who were more ſoberly and gravely inclin'd, put a more ſolemn face upon the matter, and proceeded with more formality and circumſpection. They began by laying their caſe before the gods, humbly requeſting that they wou'd vouchſafe to inform them, which ſide of the queſtion they ſhou'd chuſe. And as, if the gods had not been able to find out ſufficient means to explain their will thereupon, they themſelves took the liberty of preſcribing to them ſome certain ſigns, of their own invention, which they fondly imagin'd they might look upon as good or bad omens. This was a correſpondence carry'd on between god and man, by a kind of cypher, of which the inquirer alone had the key, and birds and beaſts were the characters. So, that in their principles, the birds, of themſelves, were of no ſignificancy: The whole depended upon the intention and conventions of the petitioner. This I think clearly appears from the following form of prayer made uſe of upon ſuch an occaſion. The *Augur* addreſſes himſelf to *Jupiter*.

Si datur & duris ſedet hæc ſententia parcis,
Signa feras, lævuſque tones, tunc omnis in aſtris
Conſonet arcana volucris bona murmura linguâ
Si prohibes, hic necte moras, dextriſque profundum
Alitibus prætexe diem ——— *.

* *Stat. Theb.* III. v. 391.

Oh!

" Oh! if our prayer be granted, give the ſign
" Almighty Jove! by thundering on our left:
" And let auſpicious birds with clangour fill
" The ſpacious vault of heaven. But if Fate
" Forbids; no more delay! But on our right
" Darken the welkin with the feather'd kind.

Moreover, what plainly proves, that at firſt the meaning or ſignification of theſe ſigns was purely arbitrary, is that it was different in different countries, and that thoſe birds, that were look'd upon as auſpicious or favourable in one place, in another, quite the contrary, were taken to be ominous. And it is *Tully*'s * obſervation, that in *Italy*, it was a good ſign if the bird flew to the left, in *Greece*, to the right. Men, conſidering themſelves as being of the ſame country, or as ſubjects, children, or diſciples, were inſenſibly accuſtom'd to regard or ſhun, as birds of good or bad omen, thoſe, who upon different occaſions, had happily or unhappily determin'd the reſolutions of their fellow-citizens, kings, fathers, or teachers. This kind of apiſhneſs, or, to call it by a better name, love of imitation, is in our very blood, and in the nature of man.

As for thoſe conventions, in which ſome were ſo bold as to preſcribe to the gods in what manner they ſhou'd reveal themſelves; from ſomething like them in holy writ, they ſeem to be very ancient. *Ask thee a ſign of the Lord thy God*, † is an order to *Ahaz*, king of *Judah*, who was heſitating upon what he was to do, and we have another example of it, ſtill more ſpecify'd, in *Eliheżer*, *Abraham*'s ſervant, who having been ſent by his maſter to fetch a wife for *Iſaac*, and being near the appointed place, ſat down by a well, where he

* Lib. 2. *de Divin.* † *Iſaiah* VII. 11.

thought the inhabitants of the place wou'd come for water, and pray'd to God, that ſhe, who ſhou'd offer him water for himſelf and his camels, ſhou'd be the deſtin'd bride of his maſter's ſon. And all this happen'd juſt as he had deſir'd*.

But to this may be added a kind of phyſical cauſe. Every body knows that the inhabitants of the air are much more affected by its various changes than any other creatures, having receiv'd from their divine author organs of the niceſt make, whereby they are made ſenſible of theſe alterations, at their firſt approach or beginning. This they ſeem to declare on all occaſions, either by their voice, their manner of flying, or by ſome difference in their aſpect or altitude. And this agrees with the uniform obſervations of all naturaliſts old and new.

Upon this ſuppoſition, is it not eaſy to conceive, that the ancients, while in their firſt ſimplicity, eſpecially when the temperature of the air might conſiderably help or annoy the growth of what they planted or ſow'd, took the ſame notice of theſe creatures, as we do of our barometers or weather-glaſſes; in order to make a right uſe of the preſent, and provide againſt the time to come. That nevertheleſs, as this ſtudy did not equally ſuit every climate, or every profeſſion, thoſe that particularly applied themſelves to it, and had gain'd a reputation by this kind of prophecy, ſeeing people eagerly flocking from all parts to conſult them, thought themſelves confin'd in too narrow limits, which they endeavour'd to extend at the expence of their honeſty, by a principle of quackery, which is but too common in all conditions of life. So taking advantage of the prepoſſeſſion, ſimplicity, and curioſity of thoſe times, they were at no great

* *Geneſis* XXIV.

pains,

pains, to make the good folks believe, that their knowledge did reach much farther than only rain or ſun-ſhine; and that the birds, whoſe language they feign'd to underſtand, did inform them of all future events. This was wink'd at by men of ſenſe, and of ſuch an impoſture *Lucian* has demonſtrated not only the poſſibility but the reality in his *falſe-prophet*.

To theſe two cauſes, either jointly or ſeparately, may be aſcrib'd this pretended ſcience, harmleſs and innocent enough in the beginning, but that afterwards, thro' the wickedneſs of bold pretenders, dwindled into a mixture of deceit and ſuperſtition, and ſerv'd to hide or advance the deſigns of aſpiring men, crafty prieſts, and tyrannical princes.

N° 4. *Saturday, November* 26, 1737.

Non fingendum, non excogitandum, ſed inveſtigandum, quid natura ferat agatve?

BACON.

AS there are ſubjects in natural philoſophy that have been examin'd and treated of by moſt of thoſe who have improv'd that branch of knowledge, ſo there are others, which either by chance, from their minuteneſs, or from their uſefulneſs not being as yet found out, have been neglected, or at leaſt, but ſlightly taken notice of. Such is *Electricity*, which has long 'ſcap'd undiſtinguiſh'd; but at preſent, it ſeems to come into faſhion, and to deſerve the attention of the niceſt obſervers.

It

It has been known, time out of mind, that yellow amber, after it has been well rubb'd, attracts ſtraws, and other light bodies, placed at a ſmall diſtance from it. This power or virtue has been call'd *Electricity* from the Greek or Latin name of amber. Some account of it will not, it is hop'd, be unacceptable to the curious reader.

Electricity is a property of ſeveral parts of matter, which conſiſts in attracting light bodies of all kinds, placed at a certain diſtance from the electric or attractive body, after it has been rubb'd with linnen, paper, cloth, or even with one's hand.

The name given to this property proves that it was firſt diſcover'd in amber, in which it is preſently perceiv'd. But there are other parts of matter, in which it is no leſs, and ſome in which it is by far more diſcernable.

Among thoſe who have ſhewn the moſt underſtanding in treating upon this ſubject, and whoſe exactneſs may chiefly be rely'd on, *Gilbert* * deſerves to be mention'd. He has added to the number of *electric* bodies ſeveral in which this virtue was not known to reſide. As there are ſome in which it acts but weakly, in order to make it more ſenſibly appear, he has made uſe of a needle, ſuſpended upon a *pivot* or *axis*. An electric body, being brought near one of the ends of this needle, will attract it, more or leſs, according to the force of its electricity. He has diſcover'd by this means, that not only amber and jet have this property, but alſo moſt precious ſtones, ſuch as diamonds, ſaphirs, rubies, opals, amethyſts, and chryſtal. And it is to be found in glaſs, ſulphur, maſtic, *&c.*

He obſerves that all electric bodies have no virtue, unleſs they be rubb'd; neither is it ſufficient that they ſhou'd be heated, either by the fire, the

* *de Magnete* II. 2.

ſun,

ſun, or otherwiſe. He adds ſeveral other obſervations upon the alteration caus'd by the interpoſition of different bodies.

Some time after, *Otto Guerike* try'd upon a globe of ſulphur ſeveral experiments, which are to be found in the collection of experiments at *Magdebourg* *. Theſe are the chief.

A ball of ſulphur, as big as a child's head, muſt be fix'd upon a frame, and made to turn upon its axis. If you put your hand upon it whilſt it turns round, it will become electric, and attract light bodies that are near it. But take it off the frame, and hold it by the axis in your hand, it will not only attract a feather, but repel it afterwards, and never attract it again, till the feather has touch'd ſome other body. He remarks that the feather driven by the globe attracts whatever it meets, or if it cannot attract it, ſticks cloſe to it; but that the flame of a candle drives it towards the globe. He adds that that ſide of the feather, which has been attracted and repell'd by the ball, is always the ſame, that ſticks to it; ſo that it faces about, if you preſent the ball to the other ſide, or oppoſite part. If you ſuſpend a thread over the ball, ſo as not to touch it, and place your finger near the lower end of the thread, the thread will be perceiv'd to recede from the finger. He has alſo obſerv'd, that the electric power of the ball was tranſmitted by means of a piece of thread at the diſtance of one ell, and that when the ball had acquir'd attraction by turning it round, whilſt his hand was upon it, it preſerv'd its virtue during ſeveral hours. The ball being rubb'd after this manner, upon holding the axis in a vertical poſition, the feather follow'd the motion of it all over the room, without ſticking to the globe.

Much about the ſame time, Mr. *Boyle* † try'd

* p. 147. † *De mechanicæ Electricitatis productione.*

ſome

ſome experiments upon Electricity. It is eaſy to conceive that ſo curious a ſubject cou'd not eſcaape the inquiry of one, who with ſo much care and ſucceſs, had taken an exact ſurvey of all the different parts of natural philoſophy, and to whom we are indebted for ſo great a number of the fineſt diſcoveries. He relates ſeveral obſervations he has made upon this ſubject.

There were philoſophers who had advanced, that amber and other electric bodies, when heated, acquir'd an attractive faculty. Others were as poſitive, that it is only by friction, or rubbing, that this power can be excited. Mr. *Boyle* ſides with theſe laſt; but he obſerves, that amber, if heated by fire, did acquire more virtue by a ſingle friction, than by being rubb'd four times as long when it was cold.

There are two obſervations of great weight to be found in this author. One, that the electric virtue is preſerv'd in a *vacuum*; and the other, that it communicates itſelf to different parts of matter, by their being brought near to electric bodies.

By what has already been ſaid, it appears that excepting amber, and jet, and a few ſuch bodies, no others were thought to be electric. But by ſome late reiterated and undeniable experiments, * it has been found that, metals alone excepted, they are all ſo, provided they can be rubb'd hard enough. Liquids, 'tis plain, are incapable of being rubb'd, therefore, are not ſuſceptable of Electricity; the ſame has been obſerv'd of ſlime. All bodies, heated before the friction, are thereby render'd more electric; and in ſome, whoſe electricity by friction alone cou'd not be perceiv'd, it will be very eaſily diſcern'd, provided they are heated before hand. Hence it appears, that Electricity, is owing to a kind of *vortex*, or

* Philoſoph. Tranſact. N° 308. 309. 366. 422. *Memoires de l'Academ. Roy. des Sciences —— pour l'An.* 1733.

ſur-

ſurrounding vapour, of a very fine, ſubtile, and active texture, which encompaſſes the electrical body, and has ſtrength enough to drive towards it light bodies, that come within its ſphere of activity.

This *vortex* is founded upon ſomething more than conjecture, for if you put very near your face a body, which is grown electric, you will feel a kind of tickling, like that caus'd by the touch of a cob-webb.

The electrical virtue is loſt or diſſipated in a very ſhort time; which is caus'd by the breaking or diſſipating of the *vortex*, or ſurrounding vapour.

Bodies, that have acquir'd Electricity, ſuch as glaſs, which is one of thoſe that acquire it the moſt, caſt light in a dark place like the glow-worm.

A body, that is become electrical, upon touching another body, or being placed very near it, communicates its virtue to it. It has this effect upon metals, altho' they cannot become electric *of themſelves*, I mean, by being heated and rubb'd. Iron is the only body that acquires this virtue of the load-ſtone, and becomes attractive of iron: but all bodies may acquire Electricity from one that is electrical, liquids themſelves not excepted. Water, upon an electric glaſs-tube's being placed ſufficiently near it, attracts hair, or bits of thread; and the hand of him that performs theſe experiments becomes electric.

It is to be ſuppos'd that the *vortex* of the body, that is electric *of its ſelf*, cleaves or adheres to the body, which is ſo, only *by communication*; or rather that it divides itſelf between the two.

The different colours, of bodies, either natural or artificial, are of no conſequence in themſelves in relation to Electricity; altho' a very ſkilful obſerver has been of a contrary opinion with ſome appearance of probability. What may cauſe ſome variety, are the different ingredients, of which artificial colours are compounded.

A body, that is become electrical, ſuch as a glaſs tube, which communicates its virtue to a body at a

ſmall diſtance, will ſtill continue to communicate it at a greater diſtance; provided the intermediate ſpace be fill'd up by ſome contiguous body, ſuch as a ſtick or a rope. For example, if you faſten the glaſs-tube to one end of a rope, and another body to the other end, this body, in a ſhort time, will become electric. This virtue is ſoon loſt in croſſing a ſpace only full of air. To be perpetuated for any conſiderable length, there muſt be a body, round which, leſt it ſhou'd be diſpers'd, it may cling or wrap its ſelf.

It is almoſt incredible how far this power thus propagated may be tranſmitted. Who wou'd believe that it cou'd be preſerv'd in a garden-walk 300 foot long? But this is nothing. Turn into another walk of the ſame length, with the ſame rope, and the ſame virtue will ſtill continue; and by this means it has been tranſmitted to ſo great a length as 1256 feet. The higheſt wind cannot divert theſe prodigious *effluvia*; but a moiſt damp air very much hurts Electricity.

Bodies the eaſieſt attracted, or the leaſt electric of themſelves, are the fitteſt to tranſmit at a great diſtance the electric power. For this reaſon, in the experiments juſt mention'd, an ordinary rope does a great deal better than one of ſilk; and it is very proper to wet it, becauſe water itſelf cannot be render'd very electrical.

A child, horizontally ſuſpended by ropes, faſtened to the cieling, a glaſs-tube well rubb'd being apply'd to his feet, his head becomes electric; and the tube being apply'd to his head, his feet will acquire that faculty. The ſame experiment may be try'd upon a bottle of hay or a faggot, ſuſpended in the ſame manner as the child. There muſt be a great quantity of matter in the *vortex*, to take in ſo great a bulk, and it not only acts upon the ſurface, but it penetrates too inwardly, at leaſt, to ſome degree, for all the little bits of wood or hay are render'd electric thereby.

We

We have hitherto chiefly ſpoken of the *attraction* of electric bodies; but this is not all; they are alſo endued with a faculty of *repelling*. What they have at firſt attracted, ſo as to ſtick cloſe to them, they afterward throw off with the ſame force with which they had attracted it. A ſmall leaf of gold, if you let it fall upon a glaſs-tube well rubb'd and placed horizontally, will adhere for a moment or ſo to the tube, but the very next inſtant, it will fly up into the air, with a very quick motion, to the heighth of 8 or 10 inches, where it will ſtand unmov'd. Upon raiſing the tube towards it, it will fly from it, and riſe in the ſame proportion as the tube. It will deſcend in the ſame manner, if you lower the tube; and this will laſt as long as the tube preſerves its virtue, unleſs one happens to touch the leaf ſuſpended in the air; for then it will immediately fall back again upon the tube, and the very next inſtant be ſent up again to the ſame heighth, till the tube has loſt its ſtrength. The action of the ſurrounding vapour ſhews itſelf plainly here; the *vortex* of the tube incloſes the leaf and attracts it, out of which another forms itſelf round the leaf, by which this laſt acquires the electric power. From the action of theſe two vortices, it is eaſy to conceive, that ſtriving to extend themſelves a contrary way, they are in a kind of *equilibrium*. But the glaſs tube being more ſolid and leſs moveable, its vortex gets the better of that of the leaf.

We have all along been talking of the action of an electrical body, upon another body, of a weight and ſize ſuitable, but not endued with Electricity. This cauſes firſt attraction, and next repulſion. But if the ſecond body has been made electric, the caſe is quite different; then there will be only attraction, or only repulſion; and as ſome bodies will be conſtantly attracted by the glaſs tube, ſo others will be conſtantly repell'd by it. This apparent inconſiſtency will be ſolv'd, by diſtinguiſhing two different kinds

of Electricity: The one, of glaſs, chryſtal, precious ſtones, &c. the other, of amber, jet, gum and other unctuous matters. Do but preſent to the glaſs tube a body that has contracted this ſecond kind of Electricity, and the tube will not fail to attract it; on the contrary, it will repel a body that has contracted the firſt kind of Electricity. It will be the ſame *mutatis mutandis* in a piece of amber or gum. Thus Electricities of the ſame kind ſeem to be at variance; whereas thoſe of a different ſort ſeek to unite. The reaſon I take to be this.

The two different Electricities have two vortices of a different nature; the ſtronger attracts the weaker, or rather, the weakeſt is ſwallow'd up by the ſtrongeſt; by which means they incorporate, and join in the ſame motion, which cauſes the attraction. But where the Electricity of both bodies is the ſame; the vortices alſo being of the ſame nature, they cannot incorporate or unite. In the ſame manner as water, which being pour'd into other water, conſtantly increaſes its bulk, but never mixes or incorporates with it: When, at the ſame time, any other matter, reduced to powder, mixt with the ſame water, preſently incorporates, but never increaſes its bulk.

I ſhall conclude with obſerving, that ſilk, linnen, paper, have of themſelves the ſame ſort of Electricity as unctuous ſubſtances: But that wool, feathers, the back of a live cat, have that kind which is proper to glaſs.

N° 5. *Saturday, December* 3, 1737.

Idem hic annus cenſuræ initium fuit; rei à parvâ origine ortæ: quæ deinde tanto incremento aucta eſt, ut morum diſciplinæque Romanæ penes eam regimen, ſenatus, equitumque centuriæ, decoris dedecoriſque diſcrimen ſub ditione ejus magiſtratûs, publicorum jus privatorumque locorum, & vectigalia populi Romani, ſub nutu atque arbitrio eſſent.

LIV.

AS the Roman Hiſtory is to be read in moſt modern languages, but particularly in our own, and is to be found in every body's hands amongſt us, it has been thought, that for the better underſtanding of it, a ſhort but exact account of one of the chief offices, among that wiſe and warlike people, wou'd not be unacceptable. It is the office of *Cenſor*, I ſpeak of, which was peculiar to the *Romans*, which no other people had ever thought of before them, and in which, notwithſtanding its great excellency and uſe, they have not been follow'd, or at leaſt have been but faintly imitated, by other nations.

This magiſtrate took his name from the *cenſus*, or general review of the people, inſtituted by *Servius Tullius*, the ſixth king of *Rome*: And this for two very good reaſons; the firſt, that he might at once be acquainted with the whole ſtrength of his people; the other, that he might engage his ſubjects

to furniſh, each his reſpective quota, in order to provide for the neceſſary expences of the Government. He order'd all the citizens to come and inſcribe their names, declare their age, the quality and condition of their parents, the names of their wives and children, and to bring in, an exact inventory of all their effects. And leaſt this order ſhou'd not be punctually executed, he publicly enacted, that whoever fail'd coming upon the appointed day, ſhou'd be ſold as a ſlave. The *Romans* readily obey'd the orders of their king. He diſtributed them into claſſes and centuries, and oblig'd them to pay, every one, proportionably to his income, a certain ſum for the public uſe. He enjoyn'd them all to appear in arms by break of day in the *Campus Martius*, or field of *Mars*, the horſe and foot divided by centuries. He himſelf drew up this army in order of battle, review'd and purify'd it by the ſacrifice call'd *ſolitaurilia* or *ſuovetaurilia* in honour of *Mars*, in which were ſacrificed a bull, a ram, and a boar who had firſt been led in proceſſion, three times, round the army; a ceremony always obſerv'd ſince at the cloſing of this kind of pole. For *Dionyſius Halicarnaſſus* poſitively affirms, that as low as his time, the *Cenſors* were wont, after a review, to purify the *Romans* in this manner. And this was call'd in their language *luſtrum*; a name, that was afterwards given to the duration of the *Cenſor*'s office, which was held five years by the ſame perſons.

When *Brutus* had expell'd the kings, the power of the *cenſus* or *civil review* was tranſmitted, with all the other regal functions, to the conſuls, who for 67 years exerted this right. But the *Romans* being engag'd in continual wars, and the conſuls frequently call'd off from the exerciſe of their civil juriſdiction to the command of their armies, the *cenſus* began to be neglected; nor was it renew'd till after the ſpace of 17 years. In the year of *Rome* 312. *M. Geganius Macerinus* and *T. Quintius Capitolinus* being conſuls,

conſuls, they propos'd the creation of a magiſtrate, whoſe ſole buſineſs ſhou'd be the *cenſus*. This was approv'd of by the ſenate, who decreed, that two perſons ſhou'd be choſen for that purpoſe, men of known integrity, patricians by birth: and accordingly, the choice generally fell upon conſular men, that is, ſuch as had been conſuls.

This was practis'd till the year 402 when *Martius Rutilus*, the firſt plebeian that had been honour'd with the dictatorſhip, obtain'd the office of *Cenſor* which he held jointly with *Cnæus Manlius Imperioſus*, a conſular perſon. However, the firſt who receiv'd this dignity at the hands of the people were *L. Papirius Mugillanus* and *L. Sempronius Atratinus*, the conſuls of the preceeding year; and as they were expreſsly created for the civil review or *cenſus*, they were call'd *Cenſors* *.

This dignity came to be look'd upon as one of the firſt of this flouriſhing common-wealth: for in time the power of the *Cenſors* reach'd ſo far, as to elect, depoſe, and reinſtate whom they pleas'd, either among the ſenators, or *Roman* knights. Beſides, they were in a manner maſters of the public revenues, cuſtoms, and farms of the *Roman* people, and ſurveyors or ſuperintendants of all public buildings, and had the right of examining into the conduct and manner of living of all ſorts and conditions of men: ſo that the honour or diſhonour of each individual ſeem'd to be intirely at their diſpoſal.

Several learned men have differ'd in regard to the place wherein the people were review'd: ſome ſaying that the *Cenſors* review'd them in the place, where public affairs were tranſacted at *Rome*, call'd the *Forum*, and that they offer'd the ſacrifice of atonement in the field of *Mars*; others being of opinior, that this field was the ſcene, both of the review and

* *Liv.* V. 9.

puri-

purification too; and no doubt this might often vary and be performed, ſometimes in one place, ſometimes in the other. However, *Livy* tells us, * that in the year of *Rome* 319, the *Cenſors C. Furius Pacilus* and *M. Geganius Macerinus* review'd the citizens, for the firſt time in a large houſe, or hall, which they had caus'd to be built for this very uſe in the field of *Mars*, and gave it the name of *villa publica*. This anſwers pretty well the guild-hall here in *England*, or the *hôtels de ville* abroad.

The people, divided by tribes, met in the field of *Mars*, and were ſummon'd, one by one, by the public cryer, to make their appearance at the *Cenſor*'s tribunal, in whoſe preſence they underwent the ſame ſcrutiny, and made the ſame declarations they us'd to do, under the kings and conſuls (as has been mention'd in the beginning of this paper) which were immediately regiſter'd by proper officers in the public records. But, if it appear'd to the *Cenſors*, that any one had prevaricated or diſguis'd the truth in any the minuteſt circumſtance, they refus'd to receive their declaration. Abſent citizens had leave to appear by proxy, provided they took care to chuſe in their ſtead a man of known probity, and that they aſſign'd a reaſonable cauſe for their abſence. *Varro* † has preſerv'd the ſet form made uſe of by the *Cenſors* taken from the *Cenſorian* tables.

This civil, was follow'd, by a military review. The *Cenſors* call'd together and review'd in the field of *Mars* the city army, I mean thoſe ſoldiers, whoſe province it was to guard and defend the city. They marſhall'd them by centuries, or companies of a hundred men. After which, was offer'd, to conclude the whole, the ſacrifice call'd *ſuovetaurilia*. There are two things, with regard to this ſacrifice, that deſerve not to be forgotten. The firſt is, that

* IV. 22. † *De Ling. Lat.* l. 6.

great

great care was taken to chuſe, for the leading of the victims, men with happy names, ſuch as *Valerius*, *Salvius*, *Statorius*, *Victor*, as a good omen to the ſolemnity; the ſecond, that vows were made and ſtrictly perform'd for the preſervation and proſperity of the *Roman* people. Theſe vows generally conſiſted in building temples, appointing feſtivals, or other ſuch religious ceremonies in honour of the gods. And every *Cenſor* did his beſt endeavours to make good and fulfill during his *Cenſorſhip*, the vows made by his predeceſſor.

After theſe ſolemn vows, the *Cenſor* to whoſe lot it was fallen to cloſe the *luſtrum*, clad in a robe, fac'd with purple, call'd *prætexta*, and crown'd with flowers, himſelf, gave with an ax, the firſt blow to the victims, as we learn from *Athenæus*. The ſacrifice ended, the *Cenſor* was oblig'd to march back to *Rome* the city guard under their banner. As for the *Cenſorian* tables, *Livy* aſſures us that they were laid up in the treaſure, among the archives of the common-wealth, near the temple of liberty upon the *Aventine* mount.

If any one had taken a falſe oath, if a judge was accus'd of having taken a bribe for the deciding of a cauſe, if a citizen had ſold or mort-gag'd his eſtate without reaſon, or was guilty of extravagance or prodigality, all theſe were to be tryed in the *Cenſor*'s court, from whence there was no appeal. All affairs, relating to marriages, were within their juriſdiction, and upon each citizen's appearing, as was the cuſtom, before the *Cenſor*, he was aſk'd this queſtion. *Ut tu, ex animi tui ſententiâ, uxorem habes liberûm quærendorum cauſâ?* Haſt thou got a wife of thine own free choice in order to have iſſue by her? He, who cou'd not ſay yes, and was forc'd to own himſelf a batchelor, as an idle uſeleſs fellow had a fine ſet upon him, which was call'd *æs uxorium*, wife-money. He, whoſe wife was barren, was oblig'd to divorce her in order to marry another,

better able to bear her part in increasing the common-wealth.

One of the most considerable functions of the *Censor*'s office, and that gave them the most credit was the right they had, of chusing those, who were to sit in the senate, and of naming the head of it, call'd *princeps senatûs*, as well as of punishing those members who were guilty of some misdemeanour, by depriving them of the rank of senator. Those, that had committed some heinous offence, did not come off at so cheap a rate. They not only lost their dignity, but the *Censor* mov'd them out of a superior into an inferior or less honourable tribe, and made them pay a fine, or a yearly tax. The most common punishment, inflicted upon the knights, was to take from them their horse, that was kept at the public charge, and their gold ring, whereby they lost the privileges of the body they belong'd to; but upon committing a more grievous fault, a knight not only lost his horse and ring, but, in the same manner as a senator, was turn'd out of his tribe and sin'd.

All the *Roman* knights being call'd by the public cryer were oblig'd, as has been said, to appear before the *Censors*, to answer what objections might be made to them, and to shew that their horses were in good case. If any was lean, or but ill taken care of, the *Censors*, in order to punish this neglect in the knight, took away his pay, call'd *æs hordearium*, oat-money. This was less disgraceful than the other punishments, as being only the penalty of carelessness, call'd *impolitia*. On this occasion *Agellius* relates, * that during the *Censorship* of *Scipio Nasica* and *M. Pompilius*, as they were reviewing the *Roman* knights, they took particular notice of one, a fat corpulent man of a surprising bulk, whose

* *Noc. Attic.* IV. 20.

horse

horſe was as remarkably lean, as the rider was fat. Upon his being aſk'd by the *Cenſors*, how he came to be ſo plump himſelf, whilſt his poor horſe was nothing but ſkin and bones. *The reaſon*, anſwer'd he, *is eaſy to gueſs. I am taken care of by my ſelf, but my horſe by my groom.* For this ſawcy anſwer, he was fin'd and depriv'd of his dignity. But, in all likelihood had he behav'd more modeſtly, he wou'd have got off with the forfeiture only of his oat-money.

When a plebeian, or one of the commonalty, committed a fault ſo conſiderable, as to deſerve the *Cenſor*'s animadverſion, he was, by him, depriv'd of his ſmall ſhare in the ſovereignty (for by this name, I think, may be call'd the right of voting) excluded from any place or employment, condemn'd to pay a fine, and reduced to the condition of a degraded citizen, who had nothing in common with the reſt, but his paying the taxes *.

In the colonies and municipal towns, and among the allies of the Latin name, or the inhabitants of *Latium*, each city had its particular *Cenſors*, who took care publickly to regiſter the name, condition, and eſtate of all the inhabitants.

The *Cenſorſhip* was at firſt conferred for the ſpace of five years; but was afterwards reſtrain'd to a year and a half by the dictator *Mamercus Amilius* † in the year of *Rome* 320, that is, eight years after the creation of this office, which, altho' diſcontinued at times, ſubſiſted near 400 years, till it was quite aboliſh'd by *Julius Cæſar*, who aſſum'd to himſelf the power annex'd to it, which he join'd to the perpetual dictatorſhip, by the name of *præfectura morum*, or preſident-ſhip of manners. Nevertheleſs, *Dio* relates, that *Auguſtus*, being grown more powerful and abſolute than *Julius* had ever been, had

* *A. Gell. Noct. Attic.* XVI. 13. *Aſconius in Divinat.* † *Liv. Hiſt. Rom. l.* 4.

the very title of *Cenſor* conferred upon him for the ſpace of five years; and this in all probability was reviv'd or renew'd every five years during the remaining part of his life. For we do not ſee that under the emperors, there have been any other *Cenſors* than they themſelves: thoſe princes looking upon ſuch an office, as a check upon their own authority, and as very improper to be exercis'd in a monarchy by any but themſelves. There are but three emperors, that are known to have taken upon their coins the title of *Cenſor*. *Veſpaſian*, and his two ſons; *Titus*, who for his princely virtues was call'd the delight of mankind, and *Domitian*, a monſter of cruelty.

N° 6. *Saturday, December* 10, 1737.

——— *Juvat ire per alta*
Aſtra. Juvat terris & inerti ſede relictis
Nube vehi, validique humeris inſiſtere Atlantis.

A celebrated author amongſt us, whoſe ſpeculations, when they were firſt publiſh'd, were the favourite amuſement of the polite and witty, and at preſent ſerve to adorn the libraries of the learned, the toilets of the fair, and are to be found in the hands of all men of true taſte as well as of pretenders to it, has obſerv'd, that whatever pleaſes the imagination is either *great*, *uncommon*, or *beautiful*; and that, under theſe three heads, may

may be ranged all thoſe ideas, produced in the mind by the works of art or nature, that affect it with delight, and are, if I may uſe the expreſſion, a feaſt to the ſoul. Thus the vaſt expanſe of the ſea; the wildneſs of an uncultivated deſart, over grown with thickets, and bounded by ſhaggy rocks; and the refreſhing variety, caus'd by the ſight of woods, incloſures, paſture and corn-fields in a fertile and improv'd country; tho' quite different from each other, are all three objects of pleaſure, and ſo many inſtances of the juſtneſs of that excellent writer's obſervation. Now, were we to look thro' the whole creation, and as it were, to ranſack nature itſelf, we ſhall never find any one object that poſſeſſes theſe three qualifications, in ſo high a degree, as thoſe majeſtic globes that roll over our heads: the Sun, who not only chears and guides us by his light, but fertiliſes the otherwiſe barren womb of the Earth, and is the chief inſtrument, made uſe of by the Supreme Being, to enliven and invigorate whatever preſerves or cheriſhes human life; the Moon whoſe reflected brightneſs, at the ſame time that ſhe ſupplies by her gentle light the abſence of the ſun, neither heats nor dazzles, and by this means never interrupts the freſhneſs or quietneſs of the night; the ſtars, thoſe everlaſting lamps, whoſe twinkling rays make up the moſt glorious illumination that the heart of man can conceive. How *beautiful* they are, every eye that has ever look'd up towards them can judge! How *great* muſt they be to emit ſuch a quantity of light, and act ſo powerfully at ſo vaſt a diſtance! How *uncommon* (for by this word muſt be meant *ſurpriſing*) are the conſtant viciſſitudes and regular revolutions of theſe heavenly bodies! Theſe cannot fail of having a very ſtrong effect upon an attentive mind; in ſo much that *Ariſtotle* * was of

* *Apud Cicer. De Nat. Deorum. l.* 2.

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opinion, that were a man to be, from his infancy, confin'd in ſome cave under ground, till he came to years of diſcretion, and not till then, admitted to the ſight of the heavens; ſuch a proſpect wou'd at once inſtruct him more than a thouſand lectures, and wou'd make him immediately conclude, that ſo noble a performance muſt be the work and contrivance of ſome infinitely wiſe intelligent power, and in a word, bring him to the knowledge of a God.

Theſe things well conſider'd; is it at all to be wonder'd, that *Aſtronomy*, or the ſtudy of the heavenly bodies, ſhou'd have been one of the earlieſt occupations and employments, that have exercis'd human reaſon? And indeed, in the infancy of the world, when men liv'd in a happy ignorance of all thoſe imaginary wants that rapine and luxury have ſince introduced; when their hearts were free from thoſe tormenting paſſions, ambition and the luſt of power, and diſengaged from religious broils and civil conteſts, no wonder if *Aſtronomy* took up their attention and engroſs'd their leiſure. Accordingly, there was ſome progreſs made in this ſcience before any other, and I will venture to ſay it may be look'd upon as the moſt ancient of all. The countries firſt inhabited abounding in paſture, moſt men ſpent their time in tending their flocks. This ſolitary and quiet life, together with their being continually in the open air, naturally led them to the contemplation of the heavenly bodies. Theſe rude and imperfect ſketches were afterwards improv'd and refin'd upon by the *Egyptians* and *Aſſyrians*, by whom men were ſet apart for that purpoſe, who made this ſtudy the buſineſs of their lives. Hence the *Magi*, who, to their real knowledge of the ſtars, added that pretended one of futurity, which, were they to be believ'd, they cou'd read in the heavenly bodies, from whoſe different aſpects and appearances they undertook to foretell with certainty moſt remarkable events, and this notion ſo far prevail'd in an igno-

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rant and ſuperſtitious age, that by it, they govern'd both king and people.

The *Greeks*, who borrow'd moſt of their learning from the *Eaſt*, and generally improv'd it, did the ſame by *Aſtronomy*. But falling into the hands of philoſophers, and among a brave free people, it was made a better uſe of, and often ſerv'd to undeceive the vulgar. Tho' indeed its chief practical uſe was always to fix and aſcertain the meaſure of time, to give rules and directions to the husbandman for his tillage, and to be a ſure and unerring guide to the mariner to mark his way upon the track-leſs unbounded ocean. At laſt, this ſcience, like moſt others, came to be reduced into ſeveral ſyſtems. The beſt and plaineſt, attributed by ſome learned men to *Ariſtarchus*, and by others, to *Archytas*, *Pythagoras* his diſciple, was rejected; that of *Ptolemy*, ſo intricate and perplex'd that I ſhall not, at leaſt at preſent, trouble my readers with it, was adopted, firſt by the *Greeks*, then by the *Romans*, and laſtly by the Moderns; till in the year 1543 or thereabouts, *Copernicus*, a *German*, who to a clear and ſtrong underſtanding join'd a vaſt application to the ſtudy of the heavens, diſcover'd the errors of his predeceſſors and was the author of a new, or at leaſt the reſtorer of the *Pythagorean* ſyſtem, free from the difficulties that attended the others, perfectly anſwerable to all the motions of the heavenly bodies and withal, ſo plain and eaſy, that it carries along with it the greateſt mark of truth and evidence that can poſſibly be, I mean, that it appears ſo natural to thoſe, who compare it with the other ſyſtems, that they are apt to imagine they cou'd have found it out themſelves. It has been improv'd by *Kepler*, and adopted by *Galilæus*, *Carteſius*, and except *Tycho-Brahe* by all the philoſophers, who have ſince made a figure in the learned world. But what adds ſtill greater weight to the *Copernican* ſyſtem is that Sir *Iſaac Newton*, the laſting ornament of the age and

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country he liv'd in, has demonſtrated, that by the help of it, the motions of the heavenly bodies are accounted for by mathematical principles, and are found conformable to the moſt exact rules of mechaniſm,

My deſign at preſent, is to give ſome notion of it; but in this, I am not a little puzzled, and I find I have taken upon me a taſk of no ſmall difficulty. For, on one hand, thoſe, who are already acquainted with theſe matters, will be apt to deſpiſe what I may ſay upon this head, as things that are eaſily found in every book written upon this ſubject; and on the other, to thoſe that are quite ignorant of them, I am ſenſible it is not very eaſy to explain my ſelf, ſo as to be readily conceiv'd and underſtood. The firſt will find an anſwer, which I believe will ſatisfy them, in my firſt paper: The others will, I hope, make ſome grains of allowance, and accept of theſe my hearty endeavours for their delight and inſtruction.

That arched vault of azure, in which ſeem to be fixt the ſun, moon, and ſtars, tho' they be at a vaſt diſtance from it, is only the *æther*, or purer air impregnated with the rays of the ſun. Theſe bodies, in reality, are in an immenſe empty ſpace. Thoſe, that are neareſt to us and endued with motion, are call'd planets; thoſe, that are motionleſs and by far more remote, are call'd fixt ſtars.

In the center or middle of the planets is the Sun, round which they move in different times, and in ſeveral circles which are call'd orbits.

The planet neareſt the Sun is *Mercury*, who performs his revolution round the Sun in 88 days; next is *Venus*, who goes round the ſame center in 224. Then the Earth in 365 days and a half; next *Mars* goes round in 687, *Jupiter* in 4333; and laſt of all *Saturn* in 10759 days.

Theſe are call'd primary planets; and ſome of them are attended by leſſer, call'd ſecondary, that move round their primary, as that does round the Sun.

Sun. So the Moon revolves round the Earth in a month or 27 days; *Jupiter* has four moons, or *Satellites*, that revolve round that planet, and *Saturn* has five. Far beyond all theſe are the fixt ſtars.

It has been ſeen that the planets mov'd round the Sun, in fix'd and determin'd times; that which is the nigheſt to it, in the ſhorteſt; that, which is moſt diſtant from it, in the longeſt time. But as they are of a globular form, that is, in the ſhape of a ball, they have a double motion; for if you roll a ball from one end of a room to the other, it cannot poſſibly go on, without rolling or turning ſeveral times upon itſelf. Thus it is with the planets; they not only go round the ſun, but turn upon themſelves, or as it is generally expreſs'd, upon their own axis. By this word *axis*, is meant an imaginary unmov'd ſtrait line, that is ſuppos'd to go thro' the middle or center of the ball or planet, and upon which it turns, as a wheel upon its axle-tree.

I have already ſhewn that there are ſix primary planets, whoſe names, together with the characters by which they are generally repreſented, are as follows.

Mercury ☿	*Mars* ♂
Venus ♀	*Jupiter* ♃
The Earth ⊕	*Saturn* ♄

They are not perfectly round, but rather in the ſhape of a ſpheroid. To have a right notion of a ſpheroid, you muſt imagine a globe, or ball, flatten'd at top and bottom or the two extremities, and very prominent in the middle or broadeſt part, like bowls, us'd in bowling greens, or rather, like a turnip. This is meant by *Aſtronomers*, when they ſay, that in a ſpheroid, the diameter at the equator exceeds that which paſſes thro' the poles. As for the diameter, it is a right line, drawn thro'

the center of a circle and dividing it into tw equal parts.

Theſe terms explain'd, we may proceed in a ſhort account of the planets. They are dark or opaque ſolid rough bodies, which wou'd not at all be ſeen, did they not ſend back or reflect the light they borrow from the common center, round which they move, the great luminary, or as he is call'd by *Milton*,

The golden Sun
That from his lordly eye keeps diſtance due,
Diſpenſes light from far; they as they move
Their ſtarry dance in numbers that compute
Days months and years tow'rds his all chearing lamp
Turn ſwift their various motions or are turn'd
By his magnetic beam, that gently warms
The univerſe, and to each inward part
With gentle penetration, tho' unſeen,
Shoots inviſible virtue even to the deep;
So wondrouſly was ſet his ſtation bright.

View'd thro' a good teleſcope, it appears to be a rough uneven, globular body, conſiſting of ſolid and fluid parts. The fluid parts are like a ſea of fire, continually agitated, made up of glowing waves, fiery billows, and flaming ebullitions, whoſe vapours are continually riſing from it in a thick ſmoak, and occaſion thoſe ſpots, that have often been ſeen upon the diſk or ſurface of it. By obſerving theſe ſpots and following their motion, it has been found that the Sun turns upon his own axis, from Eaſt to Weſt; this converſion is perform'd, according to moſt *Aſtronomers*, in about 27 days; but others, among whom is *Kepler*, a man to whom *Aſtronomy* is very much indebted, is of opinion that it is compleated in 24 hours. From the edges of the Sun's diſk are perpetually ſhoot-

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ing forth bright flames. In the ſolid parts are often ſeen flaſhes of lightning, and there appears upon it ſeveral eminencies or high places, generally call'd the ſolar mountains, from which burſt forth flames of fire. From whence there is room to ſuppoſe that the ſun is a kind of huge *volcano*, in whoſe boſom are hidden vaſt ſubterraneous caverns and receptacles of fire, with beds of nitre, ſulphur, and other combuſtible matters, that feed and keep up the flame, which breaks out thro' thoſe mountains, as our ſubterraneous fires from the mounts *Etna*, *Hecla*, and *Veſuvius*.

The planet neareſt the Sun is *Mercury*, whoſe mean diſtance from it is 32 millions of *Engliſh* miles. As the orbit, he deſcribes round the Sun, is leſs than that of any of the other planets, ſo alſo, does he finiſh his period in leſs time, in the ſpace of about three months, and he is never above 28 degrees diſtant from the Sun. He gives a clear lively bright light, but is ſeldom viſible; being, as it were, abſorb'd in the rays of the Sun, from which he receives ſix times more heat than the Earth does. This is the ſmalleſt planet, its diameter being but two minutes and a ſixth or 2460 *Engliſh* miles, and its circumference 8000. There is no ſpot to be ſeen upon it, ſo that it has not been poſſible to determine whether or no it turns upon its center; but as we are ſure that all the reſt of the planets have that motion, it is to be ſuppos'd, that *Mercury* is not without it.

Next to *Mercury* is *Venus*, whoſe mean diſtance is about 59 millions of *Engliſh* miles from the Sun from which ſhe is never diſtant above 45 degrees, and round which ſhe revolves in about eight months, and receives twice as much light and heat from it as the Earth does, which ſhe is thought by ſome to exceed in bigneſs. Her light is ſomewhat pale, which has made it been thought that there are exhaling from her globe vapours like the

morning dew, very rare, humid, and ſubtle. She is liable to changes like the moon, having been obſerv'd, at ſome times, to be almoſt full, at others gibbous or bunching out, and now and then horned like a creſcent, under which ſhape both ſhe and *Mercury* are often ſeen. Her appearing in the morning, juſt before the riſing of the Sun, and in the evening, immediately after his ſetting, have given room to the poets to repreſent her as an attendant upon him, or a forerunner of *Aurora*; and has procur'd her the *Greek* name of *Phoſphorus* or bringer of light, and the *Latin* one of *Veſper* or evening ſtar. It is pretended by ſome that the rays, reflected from the Sun, and caſt from her diſk upon the ſurface of the Earth, are ſo ſtrong, that bodies objected to them have caſt a ſhadow.

After *Venus* is the Earth, which turns round the Sun in about a year, at the diſtance of 81 millions of *Engliſh* miles. She turns upon her axis, from Weſt to Eaſt, in 23 hours 56 minutes, which produces the change of night and day, according as one half of her is turn'd to, or from the Sun. But this our own planet, with her cloſe companion the Moon, ſhall be treated of more at large in another paper.

Next to the Earth and Moon is *Mars*, much farther from the Sun than the foregoing planets. By the ſpots upon his ſurface, it is known, that *Mars* turns upon his axis in 24 hours 40 minutes. His diameter is 4444 *Engliſh* miles. His mean diſtance 123 millions of *Engliſh* miles from the Sun, round which he moves in about two years, and from which he receives twice or perhaps three times leſs heat and light than the Earth. Nevertheleſs, *Mars* appears of a red fiery colour like a glowing hot coal. This may proceed from his globe's being made up of ſome bituminous, ſulphurous, or nitrous matter, whoſe exhalations, perhaps

perhaps not unlike thoſe of the ſpirit of nitre, may make it appear of this ruddy colour. There has been obſerv'd, in the middle of his diſk, a large black ſpot, which is thought to be a great cavity or hollow place. *Mezerai* * relates that in the year 797 it was remark'd by *Aſtronomers*, that they were a whole year without ſeeing *Mars*; if this be true, it muſt be ſuppos'd, that the globe of *Mars* had undergone ſome extraordinary alteration that hinder'd it from reflecting the light of the Sun.

Next to *Mars* is *Jupiter* the largeſt of the planets, which deſerves to be particularly conſider'd. He is, as it were, girt round by ſeveral broad belts, about the nature and uſes whereof philoſophers are very much at a loſs. There is room to think that they are of a fluid matter, for they are often ſeen to part, and then join again, in the ſame place. The diameter of *Jupiter* is 81000 *Engliſh* miles and his circumference about three hundred thouſand. His mean diſtance is 424 millions of *Engliſh* miles from the Sun, and he is 12 years going round it. Notwithſtanding his vaſt bulk, he turns upon his axis, according to our *Aſtronomers* here in *England*, in leſs than 10 hours; but thoſe of *Paris* are of opinion this revolution is perform'd in leſs than ſix hours, which is the ſwifteſt motion that was ever known or heard of. He receives five and twenty times leſs heat and light from the Sun than the Earth, and as he always appears bright and ſhining, this has made a great many think that, if there are vapours riſing from him, they muſt be very pure and ſubtle. This planet is accompany'd and enlightened by four ſatellites or ſecondaries, that conſtantly follow it as their center, each of which

* *Abrégé de l'Hiſt. de France.* Tome 1.

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is larger than the globe of the Earth. The prodigious diſtance, between *Jupiter* and the Sun, has given room to doubt, conſidering his exceſſive brightneſs, whether his light was borrow'd from the Sun, or proper to the planet itſelf. But the obſervation of the ſhadow of its ſatellites, upon its diſk or ſurface, which cauſes a kind of eclipſe when they are directly between the Sun and this planet, has made it appear that *Jupiter* has no light but what is borrow'd from the Sun, and that theſe ſatellites are in the nature of our Moon and perform the ſame office.

We are at laſt come to *Saturn*, whoſe pale and gloomy light ſeems fit for nothing but to give the ſpleen. It has nevertheleſs afforded a world of obſervations to the curious. The five moons or ſatellites that attend it, the ring, by which it is encompaſs'd, in the ſame manner as an artificial globe by the horizon, are ſo many remarkable ſingularities that have given room to a good deal of ſpeculation. This ring tho' at a conſiderable diſtance from it (for ſtars have been ſeen between that and *Saturn*) turns perpetually round it as about its center. This planet's mean diſtance from the Sun, round which it turns in about thirty years, is 777 millions of *Engliſh* miles. Its diameter is 68000 *Engliſh* miles, ſo that its circumference muſt be above 200 thouſand, its diſk being ſomewhat leſs than *Jupiter*'s. Its light and heat is the ninetieth part of that receiv'd by the Earth.

I ſhall conclude this paper with ſhort tables, exactly calculated, wherein the times of their different motions are carefully ſet down.

A Table

A Table of the time in which each planet turns upon its own axis.

	days	hours	min.	seconds
The Sun in	25	6		
Mercury uncertain.				
Venus	0	23	56	
The Earth	0	23	56	49
Mars	1	00	40	
Jupiter		9	56	
Saturn unknown.				

A Table of the time in which each planet, or ſatellite, *turns round the center of its motion.*

	days	hours	min.
Mercury in	87	23	16
Venus	224	16	49
The Earth	365	6	9
Mars	686	23	27
Jupiter	4332	12	20
Saturn	10759	6	36

Satellites of Jupiter.

Firſt	in	1	18	28
Second		3	13	14
Third		7	3	43
Fourth		16	16	32

Satellites of Saturn.

Firſt	in	1	21	19
Second		2	17	41
Third		4	13	47
Fourth		15	22	4
Fifth		79	22	4

Moon or Satellite of the Earth.

Periodical Month	27	7	43
Synodical Month	29	2	44

N° 7. *Saturday, December* 17, 1737.

Ætas parentum pejor avis talit
Nos nequiores; mox daturos
Progeniem vitioſiorem.

HOR.

AS my readers have been ſo indulgent as to approve of ſome of my eſſays, they will, I don't doubt, be as favourable to what others may write. For my part, I muſt confeſs I have ſo mean an opinion of my own thoughts, that I am very glad of the opportunity, this letter gives me, of entertaining the public with thoſe of another.

SIR,

Man has been defin'd by ſome, a riſible, by others, a reaſonable creature; but I can't help thinking the epithet of ſociable belongs to him as properly as any other. As ſoon as men began to unite more cloſely and dwell together in cities, reaſon, or a kind of inſtinct, taught them that there was ſome regard due from one to the other, which regard, by each nation, was diverſify'd, according to its particular genius.

The *Aſiatics*, who had a lively imagination, a tender heart, and a ſupple mind, were almoſt guilty of exceſs in the expreſſions of their civilities. The humble manner in which *Abraham* and *Lot* receive

receive the Angels whom they took for men; the ſubmiſſion with which *Abigail* addreſſes herſelf to *David* to appeaſe his wrath; and many other inſtances I purpoſely omit, are ſo many examples of this Eaſtern complaiſance, which was carry'd to the greateſt heigth by the *Aſſyrians*, *Medes*, and *Perſians*, who were bred up in the ſtricteſt principles of paſſive obedience, and were wont to worſhip abſolute power in its worſt of ſhapes.

The *Europeans*, of a graver and more phlegmatic diſpoſition, a greater ſoul, and a temper not eaſily to be ſubdued or controul'd, expreſs'd their friendſhip, eſteem, or reſpect, in a plainer or leſs ſervile manner. Accordingly we find that the *Greeks*, accuſtom'd to that equality whereby free and popular ſtates are diſtinguiſh'd, deſpis'd and contemn'd, as the meaneſt proſtitution, that ſupine groveling homage exacted from them by thoſe kings of *Perſia*, in whoſe ſervice they had courageouſly expos'd their lives. Tho' at the ſame time they were the politeſt people of the then known world, and were as remarkable for their courteouſneſs and good breeding, as for their great ſkill in all the arts both of war and peace.

Notwithſtanding the manners of the inhabitants of *Italy* had been very much ſoftened by the mixture of ſeveral *Greek* colonies, yet, from Hiſtory, they appear rather downright honeſt people than fine gentlemen.

Rome was at firſt only a confus'd heap of uncivilis'd nations. Their leading a meer country life, together with their perpetual wars, preſerv'd for ſome time their genuine ruſticity. The conſtitution of their government was the firſt thing that poliſh'd them; for neceſſity made the common people ſubmiſſive and reſpectful; and ambition taught affability to thoſe in higher ſtations. At laſt, towards the latter end of their common wealth, and under their firſt emperors, plenty,

luxury, Letters, but eſpecially, their intercourſe with the *Greeks* who had improv'd their manners after the loſs of their liberty, made them excell all other nations in politeneſs as well as power; ſo that they were proud of nothing ſo much as of what they call'd *Roman urbanity*. This in length of time came inſenſibly to alter for the worſe, and at the diſmembring of the empire degenerated into fulſom compliments and inſipid nauſeous adulation.

Hence we may conclude that it has far'd with politeneſs as with moſt other things. They riſe from ſmall beginnings and by ſlow degrees; they afterwards are carry'd as far as they can go; but, when once they have reach'd the ſummit, they preſently fall into a declining condition, and decay much faſter than they increas'd. Like the life of man, which, after a long and tedious childhood, ſucceeded by a few years of maturity and perfection, often ends in an infirm old age; or to uſe a leſs affecting compariſon, like *Syſiphus* his ſtone, which according to the fable, is feign'd to be forc'd up the hill with great pains and labour, to abide hardly one moment at the top of it, and then to roll down the ſlope with rapidity.

Riches and power, virtue and learning, honour and morality, nay religion itſelf, have had the ſame fate among all nations and in all ages. In ancient times, the moſt celebrated common-wealths ſuch as *Rome* and *Carthage*, *Athens* and *Sparta*, the two former competitors for the empire of the world as the latter were for that of *Greece*, are illuſtrious proofs of what I aſſert.

Rome, till the end of the ſecond Punic War, grappled hard with her neighbours for a ſmaller territory, than what is, at preſent, poſſeſs'd by the *Pope*. Then ſhe was valiant, honeſt, and laborious. She afterwards waged war with mighty kingdoms and made herſelf formidable to the greateſt

greateſt princes. Then ſhe grew learned, knowing, polite, and magnificent. She at laſt arriv'd to ſuch a heigth of wealth and power, as to overcome all that withſtood her, eſtabliſh her dominion without controul, and reign ſovereign of the world. Then ſhe became diſhoneſt and covetous, luxurious and effeminate, and fell a victim to the enterprifing and extenſive genius of one of her own citizens, whoſe talents cou'd only be equal'd by his towering ambition. This, were it not too tedious, might be exemplify'd, in the ſame manner, in the other republicks above mention'd, and indeed in all kind of governments.

Chriſtianity itſelf, tho' flowing from ſo ſacred a ſpring, has not been free from theſe alterations: It is too well known how ſoon it degenerated from its primitive purity and became ſubſervient to all the purpoſes of ſuperſtition, violence and fraud. Two centuries are not yet paſs'd ſince it had almoſt diſappear'd, and ſeem'd deſtin'd to undergo that fatality incident to all other human things; but true religion can never periſh. It reviv'd again at the reformation, and ſeem'd to be turn'd once more inro its proper channel, thence extending itſelf, on all ſides, like a noble river, whoſe pure and limpid ſtreams afford cooling wholeſome draughts to the thirſty flocks and wearied traveller, and in their peaceful courſe enrich the banks, near which they flow, diſtributing health and plenty. But, at preſent, does not its courſe appear again interrupted, whilſt the tranſparency of its waters is troubled and diſturb'd by deiſm, infidelity, and I know not what?

I am afraid to trangreſs the bounds of a letter, or elſe I ſhou'd endeavour to ſhew this conſtant viciſſitude in many other inſtances; but I ſhall conclude with a ſtory which may ſerve to enliven and *égayer* a little what ſome may think too ſerious.

About twenty or thirty years ſince, a venerable old man, who had paſs'd all the offices in one of the chief towns in *Holland* with honour and applauſe, and had gain'd great riches without reproach, had ſome thoughts of retiring to his country-ſeat. In order to take leave of his friends and acpuaintance in a handſome manner, he invited them, young and old, of both ſexes (and they were people of the beſt faſhion in the place) to an entertainment at his own houſe. They met together with great expectations, but to their no ſmall ſurpriſe, ſaw a long table, hardly cover'd with a ſcanty blue cloth, on which were alternately placed, platters full of butter milk, and ſowre-crude, heaps of pickle herrings and huge cheeſes. The reſt of the chear was made up with butter and *roggen-brot*, or rye-bread; and cans of ſmall-beer were at hand for thoſe that had a mind to drink; trenchers ſerv'd inſtead of plates, and not a ſingle ſervant attended. The company ſecretly curs'd the old fellow's humour, but in regard to his great age and ſtill greater merit, bridled their reſentment and ſeem'd to take up contentedly with their homely fare.

The old gentleman ſeeing the joke take, was unwilling to carry it too far; but ſoon ſhifted the ſcene. Two boorin-maids, in their cleanly country garb, appear'd at their maſter's call, and brought in a ſecond courſe. The blue cloth was exchang'd for white linnen, the platters and trenchers were transform'd into pewter, the mean food into good ſalt beef and boil'd fiſh, the brown into houſhold bread, and the ſmall beer into wine. The gueſts grew better pleas'd, and the maſter of the feaſt more earneſt in his invitations. After he had given them time to eat of this ſecond courſe, at a ſignal he made, the third was ſerv'd up by a *maître d'hôtel* in form, follow'd by half a dozen powder'd lacquies in gawdy liveries. The moſt beautiful

beautiful flower'd damaſk was ſpread over the table, the richeſt plate and moſt curious china adorn'd the ſide-board, whilſt a profuſion of ſoops, olios, tame, and wild fowl, ragoûts, *blancs mangers*, in a word all that the art of a modern *French* cook cou'd produce, ranged in a well-diſpos'd judicious order, ſeem'd to court the taſte and renew the appetite of the whole company. Add to this ſtrong-body'd chateau-margou, generous burgundy, ſparkling champaign, in ſhort, a choice of the beſt wines, commerce can procure to a trading country. And, that nothing might be wanting that cou'd pleaſe the ſenſes, by that time a ſumptuous deſſart was brought in, a melodious concert, made up of an agreeable variety of inſtruments, was heard in the next room. Healths went round, mirth increas'd, and the old man, ſeeing that nothing but his departure, and of the graveſt of the company, was waited for to give a looſe to joy and pleaſure, roſe up and made the following diſcourſe.

Gentlemen and Ladies. I heartily thank you for this favour; it is time for one of my age to withdraw; but I hope thoſe, that are diſpos'd for dancing, will accept of a ball, which I have order'd to be prepar'd for you. Before the fiddles ſtrike up, give me leave to make a ſhort reflection upon this entertainment, which otherwiſe wou'd appear whimſical and the effect of humour; it may ſerve to give you an idea of our common-wealth. By living after that penurious manner exhibited in the firſt courſe, our anceſtors rais'd their infant ſtate, and acquir'd liberty, wealth, and power. Theſe were preſerv'd by our fathers, who liv'd in that handſome but plain way, you have ſeen in the ſecond courſe. But if an old man be permitted, before he leaves you whom he dearly loves, to ſpeak his thoughts freely, I am indeed afraid, that that extravagant plenty, you have obſerv'd in the laſt courſe, will, if we go on, deprive us of

thoſe advantages, that our anceſtors have earn'd by the ſweat of their brow, and that our fathers, by their induſtry and good management, have tranſmitted to us. Young people, I adviſe you to be merry this evening, but to think ſeriouſly to morrow, upon what I have been telling you to day. Good night.

The concluſion of the old man's ſpeech ſhall be that of my long letter. If theſe looſe thoughts can be of any uſe to you, pleaſe to inſert them in one of your papers.

Norwich December 1, 1737.

Your reader and humble Servant

A. B.

N° 8. *Saturday, December* 24, 1737.

——— *Mutatas dicere formas.*

OVID.

SELF-love is the darling or rather only paſſion of mankind; for all others, if well conſider'd, will be found to unite and center in that alone. And indeed, when it is govern'd by the rules of wiſdom and reaſon, it becomes the ſpring of the nobleſt actions and productive of all the ſocial virtues: As, on the contrary, when it takes folly for its guide, it gives birth to narrowneſs of mind and all thoſe vices, which

which make a man uneaſy in himſelf, and odious to others. In ſhort, I dare be confident that ſelf-love is the maſter-ſpring of all our actions.

If this be allow'd, it will not be difficult to account for that kind of horror or contempt moſt people are apt to ſhew towards the leaſt, but not the leſs beautiful part of the creation; nor for thoſe little ſarcaſms and witticiſms, which men, of more fancy than judgment, have been ſo liberal of, when the ſtudy of this part of nature has been ſeriouſly recommended by the learned. The intelligent reader will readily apprehend that I am ſpeaking of the knowledge of *Inſects*. To ſelf-love it is owing, that we judge of the value of things relatively to ourſelves. Whatever is ſuperior to us in bulk, or ſize, is generally what cauſes our admiration, whilſt what is inferior is deſpiſed and undervalued. Now to one that conſiders theſe things more abſtractedly they will appear in a quite different light. Both what is infinitely great and infinitely little proves equally the infinite wiſdom and power of the maker. The ſmalleſt pebble is form'd by the ſame cauſes as the hugeſt rock, the loweſt ſhrub owes its growth to the ſame principle of vegetation, as the talleſt oak, and all that is requiſite to animal life is to be found in a mite, as well as an elephant.

One that ſpends his life in the ſtudy of the heavenly bodies, that examines the regularity and laws of their motion, the time the planets take up in revolving, both upon their own axis, and round their great center the Sun, the light they all borrow from him and reflect upon one another. I ſay one that ſpends his life, in this manner, will be look'd upon to have made choice of the nobleſt ſpeculations, and beſt ſuiting with the dignity of human nature. But he who has taken the ſame care and pains in getting acquainted with the nature of Inſects; who, by his induſtry, has diſcover'd their ſeveral parts and organs, their heart and lungs, their trump or pumping

pipe,

pipe, their eyes of ſo nice and artificial a ſtructure; who has inquir'd into the motion and action of all theſe different parts, will he not, by moſt men, be thought too intent upon trifles? And yet there is perhaps as much difficulty in accounting for theſe things, as for the real and apparent motions of the celeſtial orbs. One thing I think I am pretty ſure of, that the former has a much nearer relation to the knowledge and well-being of our own bodies than the latter. And if it appears to us leſs valuable, it is only, becauſe it turns upon objects incapable of ſtriking our fancy by their greatneſs.

Had it pleaſed him, to whom prodigies are eaſy, that, either upon the ſurface or within the bowels of the earth, ſhould have been found thouſands of ſmall hollow balls of chryſtal, in the cavities whereof might be diſcover'd, by the help of good glaſſes, ſmall bodies continually moving round a luminous center, in the ſame manner as the planets move round the ſun, in a word, a planetary ſyſtem of atoms; wou'd not this be look'd upon as an admirable contrivance? wou'd not the periodical revolutions of theſe beads of exceſſive ſmallneſs be eſteem'd worth the inquiry of the ableſt philoſopher? But if theſe little globes, being to be found every where, were once grown familiar to the eye and mind; upon comparing what wou'd appear moſt wonderful in them with what is moſt wonderful in animals of the ſame or a leſs ſize, it is theſe laſt, I dare ſay, that wou'd engroſs all our admiration. What wou'd ſtrike us moſt, in the diminutive ſpheres, wou'd be the regular motion of ſix or ſeven globules round a center. How many millions of globules are perpetually paſſing, to and fro, in the bodies of the ſmalleſt Inſects, and deſcribing curves much leſs eaſy to be accounted for than thoſe of the planets? For it is allow'd, that the fluid, that is in Inſects inſtead of blood, is chiefly made up of globules, as blood is in larger animals. But beſides that of the blood, which circu-

circulates thro' ſo many channels and ſluices, how many more admirable motions are to be found in the bodies of Inſects? ſome to take in and let out air, others to ſecrete the humours and prepare digeſtion. And if we look into the inſide of one of theſe little creatures, how many things are requiſite to enable it to put forth ſo many exact copies of itſelf?

Two things are chiefly admired in a work of mechaniſm: its being as plain and ſimple as poſſible, in regard to the end for which it is intended; and its being compounded of a great number of parts, and of ſuch parts, as are moſt different one from the other, and that form a neceſſary, not a ſuperfluous variety.

This is chiefly to be obſerv'd in Inſects, the nice framing of which, notwithſtanding their ſmallneſs, is far ſuperior to that of larger animals: ſince nothing is more certain, than that there is a greater diverſity of parts in their bodies, than in thoſe of the elephant and whale. In order to bring to life a butterfly, a bee, a gnat, or in ſhort any of thoſe Inſects that alter their ſhape, two creatures, or at leaſt, what is equivalent to two, muſt have been firſt form'd. It is from a caterpillar that the butterfly, and from a worm that the gnat, the waſp, and the common fly borrow their being.

All Inſects, whether of the flying or creeping kind, may be divided into three ſorts or claſſes. Firſt, thoſe that are made up of ſeveral rings, by the means of which, they can either ſtretch or contract, at pleaſure, the common membrane or ſkin, in which they are inclos'd. Secondly, thoſe, whoſe bodies conſiſt in ſeveral thin plates, that ſlide over one another. Thirdly, thoſe, who have two or three principal parts join'd by a ſmall fibre or thread.

Of the firſt kind are all ſorts of worms, both with feet and without. In order to move from one place to another, they ſtretch the muſculous ſkin, that ſeparates the firſt rings from thoſe that follow:

They carry the firſt, either that towards the head, or that towards the tail, to a certain diſtance. Then, wrinkling and drawing the ſkin to the ſame ſide, they bring over the ſecond ring, and ſo ſucceſſively the reſt of their body. Thus, theſe creatures, even without feet, walk and tranſport themſelves where they pleaſe; ſpring out of the earth, or ſink into it, upon the leaſt apprehenſion of danger; advance or retire as occaſion requires.

Of the ſecond kind are moſt ſorts of flies. The ſcales or plates, wherewith their body is made up, may be lengthned by unfolding, or ſhortened by running into one another, as the braſslets or cuiſſes of our old armour.

Of the third kind are ants, ſpiders, *&c.* Their bodies are divided in two or three portions that ſcarce ſeem to hold together. From this very circumſtance they have their name; for from the Latin word *inſecare*, which ſignifies *to cut*, is deriv'd the word *Inſect*, as being thus cut out and divided into ſeveral parts.

In general, they all owe their birth to an egg, which is not, as is commonly believ'd, laid at random any where, but in ſuch a place, as is propereſt for the little one that is to come out of it, and where he may find food, covering, and whatever may ſerve to cheriſh, nouriſh, and protect him. Thus the butterfly is very careful to leave its eggs upon thoſe plants, where the inclos'd caterpillar is to feed, ſpin, and ſpend his whole life: Whereas the common fly chuſes to ſhed her ſpawn upon the meat, ſhe herſelf lives on, and makes choice of that part of it, which beginning to ſpoil, is fill'd with a kindly juice, fit for the ſupport of the worm her egg produces. Other flies pitch upon the body of a caterpillar, in which they inſert their eggs, and thereby make an excellent proviſion for their young one, who, till it is time for him to creep out, finds both ſhelter and nouriſhment in the inſide of the caterpillar. It wou'd be endleſs

to

to enumerate the ſeveral methods, that are made uſe of by Inſects, for the preſervation of their breed. Theſe few inſtances already mention'd will ſuffice.

Upon leaving their egg, ſome appear in the complete ſhape and form as they will preſerve all their life: Such are ſnails, who come out of the egg with their houſe upon their back, which they only increaſe, as they grow larger, by the addition of new rings or circles to their ſhell: Such are ſpiders, who differ from what they were, when they left their egg, only in their ſkin and bulk. But moſt other Inſects undergo ſeveral changes, and put on ſucceſſively the figure of two or three creatures that bear no manner of reſemblance to each other. So that they may be conſider'd as two or three bodies (furniſh'd with proper and different organs) that are lapp'd up in one, and who, unwrapping themſelves one after the other, produce a real metamorphoſis, as ſurpriſing and agreeable, as any of the fictitious, that are celebrated by *Ovid*.

The firſt condition, theſe Inſects appear in at their firſt entrance into the world, is low and humble enough, even that of a very little worm, ſome with, ſome without feet. Thoſe, who are without, are taken care of by the parents, who provide them with a convenient lodging, and bring them their daily ſuſtenance. Thoſe with feet, ſeek their food upon the leaves of the tree that is fitteſt for them, and upon which the mother has not fail'd to place them. They grow up in a very ſhort time; ſome ſhed their coat, and renew their ſkin, and alter five or ſix times their dreſs. All afterwards (I ſpeak only of thoſe that are chang'd or transform'd) go thro' their mean or ſecond ſtate, which is that of a *nymph* or *chryſalis*, that is a ſhell or cod; theſe are but different names to expreſs much the ſame thing, as will be explain'd a little lower. The worm, after a time, leaves off eating, and ſhuts himſelf up in a kind of little ſepulchre, which varies according to the diffe-

rent ſpecies, but which, in each ſpecies, is always built in an uniform manner. There, under a cover that ſhelters a creature of ſo nice and fine a texture from all manner of hurt, he acquires a new conception and a new birth. He then receives the name of nymph, or bride, becauſe in this ſtate, the Inſect puts on his gawdieſt attire, and the laſt ſhape under which he is to appear, to multiply his ſpecies by generation. It has the name of *chryſalis aurelia*, or *golden nymph*, becauſe the pellicle, in which it is clad, grows by degrees of a more pleaſing and lively hue. It is alſo call'd ſhell or cod, becauſe it is wrapp'd up in a ſkin, commonly pretty hard, and not unlike the ſhell of an egg, or the outward coat and ſkin of a bean, tho' it muſt be own'd, that the word *cod* is commonly made uſe of to ſignify the little bundles of thread and glue under which ſilk-worms, and ſome ſort of caterpillars, lie ſnug and hidden, when they are turn'd into nymphs.

We are come to the laſt ſtate, which makes an end of and crowns the metamorphoſis. He breaks out of his confinement, burſts thro' his priſon, ſhakes his plume of feathers, unfolds his wings, unfurls his gaudy colours to the ſun; in a word, the whole winged Inſect diſplays himſelf and ſhines in all his beauty.

N° 9. *Saturday, December* 31, 1737.

Magnus ab integro ſæclorum naſcitur ordo.

VIRGIL.

THE following letter, being a *diſſertation upon the true year and day of the birth of* CHRIST, was, I believe, deſign'd, by the author, to be publiſh'd, by way of eſſay proper to the day, on ſaturday laſt. But, as it did not come to hand ſoon enough for that purpoſe, it is hoped he will excuſe us for inſerting it a week later than he intended. It is humbly preſum'd, that a letter upon ſuch a ſubject will not be thought to come out in a wrong time on this day, which immediately precedes one of the moſt ſolemn feſtivals, appointed by the Church, to be celebrated after that of the birth of our Saviour. Beſides, this little piece appears to me to be ſo valuable, that I think it can never be unwelcome to the Public. For my part, I muſt own that were my eſſays any thing equal to this performance, I ſhould not ſend them abroad with diffidence and fear, nor chiefly depend, as I do at preſent, upon the indulgence of the good-natur'd reader. I ſhall only add one word more; that in compliance with the modeſt requeſt of the author, his name ſhall be kept a ſecret.

S I R,

ALTHO' in your introduction printed before your firſt eſſay, bearing date *November* 5th, you inſinuate, that

that you do not intend to meddle with religious controverſies; yet nevertheleſs, I am perſuaded your deſign is only to ſet aſide ſuch points of doctrine, which by ſome are rejected as heretical and ſpurious, whilſt by others they are receiv'd and reverenced as articles of faith. But, at the ſame time, you do not ſurely mean to exclude what all parties will allow without conteſt, and which, beſides, you may conſider in a critical view, as mere matter of fact. In this light, I cannot help recommending to you a ſubject, in my humble opinion, well worth the inquiry of the learned and peruſal of the curious; and to which you are, in a manner, invited by the approaching feſtival; I mean, Sir, the exact time of the birth of *Chriſt*. Your thoughts, at preſent, are not perhaps turn'd this way. Therefore, if you approve of what I have thrown together upon this head; you are heartily welcome to publiſh it as it is, put it into a better form, or make whatever other uſe of it you think proper.

There are few among thoſe, who are converſant in theſe matters, but what know, that the *Chriſtian Æra*, according to which we now reckon *A. D.* 1737; was firſt found out by *Dionyſius Exiguus*, a *Scythian* monk, who in the VI. century ſojourn'd at *Rome*, under the reign of *Juſtinian*; and that the characteriſtics of this *Æra* are Solar Cycle 10. Lunar 2. Indiction 4. which neceſſarily falls upon the year 4714, in what is call'd the *Julian* Period. Yet nevertheleſs this *Æra* was ſeldom or never made uſe of till the time of *Charlemain*, about the year 800, ſince when the weſtern Church, having receiv'd it, has given it thereby ſuch a ſanction, that the endeavouring to introduce another in its ſtead, wou'd, I am afraid, be look'd upon as a very idle pretenſion. But what will not bear in practice may in theory, or rather, when there is manifeſtly an error, every thinking perſon muſt be glad to ſee it rectify'd, and no one, I imagine, can, with any reaſon,

reaſon, be angry at my deſign of fixing the true and exact time in which our Saviour was born.

But that thoſe, who are not ſo well accuſtom'd to theſe kind of diſcuſſions, may more readily apprehend my meaning; give me leave, Sir, before I enter into the merits of the cauſe, to ſketch out a ſhort chronological table, which will not only ſerve to explain and illuſtrate what has already been ſaid, but will ſet what is to follow in a much clearer light.

A. Æ. C. [a]

40 . . . . *Herod* made king by the Senate, about the middle of this year, towards the end of the CLXXXIV. Olympiad, in the year of *Rome* 714. under the conſuls *Calvinus* and *Pollio*.

37 . . . . *Herod* takes *Jeruſalem* at the end of the III. year of his reign, in the CLXXXV Olympiad, under the conſulſhip of *Agrippa* and *Gallus*.

5 . . . . JESUS CHRIST, *born the 25th of December*.

4 . . . . At the end of March, 37 years after his firſt acceſſion to the crown of *Judæa*, and 34 after the ſecond, *Herod* dies, and is ſucceeded by *Archelaus*.

Æ. C. 1. Or Firſt year of the *vulgar* Chriſtian *æra*, beginning the firſt of January, *four* whole years after the *true birth* of *Jeſus Chriſt*, and about *three* years, *nine* months after the death of *Herod*, and the beginning of the reign of *Archelaus*.

Theſe outlines or plan once drawn, we may now proceed to lay the foundation of the whole.

(a) Note; *Theſe are the Years before the* vulgar Chriſtian Æra *or* commonly reputed *Birth day of Chriſt*.

I. IT is expreſsly ſaid in the Goſpel [b] that *Jeſus was born in the days of Herod the king*; and according to *Joſephus*, this prince died, after he had reign'd, ſince he had made away with *Antigonus*, four and thirty years; and ſince he had been declar'd king by the *Romans*, thirty-ſeven. This is an unvaried reading in *Joſephus*, both in his Antiquities, [c] and his account of the wars of the *Jews*. [d] But this is not ſufficient: That we may be fully appris'd of the matter, we muſt go upon ſurer grounds, and in order to know preciſely where theſe years end, we muſt try to diſcover when they began. The diſcuſſing this point is unavoidable.

II. AND firſt, according to the above-mention'd Hiſtorian, [e] *Herod* was made king by the Senate in the CLXXXIV Olympiad, under the conſuls *Donitius Calvinus* and *Aſinius Pollio*. This was 40 years before the *vulgar æra*, and if you reckon 37 complete years in *Herod's* reign, his death muſt have happen'd three years before *our æra*. But the years of his reign are not complete. *Herod*, who according to *Joſephus* [f] had been declar'd king a few months after *Whitſuntide*, died a few weeks before *Eaſter*, There is therefore room to think, that the hiſtorian has reckon'd theſe years by thoſe of the conſuls. As each year did bear the name of both the magiſtrates who were inveſted with the conſular dignity, the 37 years of *Herod's* reign (being 35 complete, between two defective, conſiſting only of a few months) muſt for that very reaſon end the IV. year before the *vulgar æra*.

(b) Matth. II. 1. Luke I. 5.
(c) XVII. 10. p. m. 770.
(d) *Belli ult.* p. m. 1042.
(e) *Antiq.* XIV. 26. p. m. 699.
(f) *ubi ſupra.* 23. p. 643. & XVII. p. 11. 773.

the

Whilſt *Herod* was haſtening to *Rome* in order to be elected king by the Senate, *Antigonus* invaded the throne, and made himſelf maſter of the city of *Jeruſalem*[g]. But, three years after, in the CLXXXV Olympiad, under the conſulſhip of *Agrippa* and *Gallus*, *Herod* took *Jernſalem*, the ſame day it had been taken by *Pompey* 27 years before. This is his ſecond acceſſion to the crown, whence *Joſephus*[h] generally reckons the years of *Herod*'s reign, which, according to him, amount to 34. This wou'd exceed our computation by a whole year; but, as we are us'd to this hiſtorian's manner of writing, we know he means conſular years, whereof there are 32 complete, between the firſt and laſt, which are but of ſix months each. This premis'd, there is no difficulty remaining; *Herod*'s death neceſſarily falls in with the IV. year, before the *vulgar æra*, where end alſo, as we have already ſeen, the 37 years ſince his firſt acceſſion. To ſtrengthen this our opinion it may be obſerv'd, that according to *Joſephus*, from one ſiege of the city to the other, there were 27 years, altho' in reality there were but 25, which muſt ſtill be underſtood of conſular years, and juſtifies what we have ſaid about this author's way of reckoning.

III. As for the time of the year, in which *Herod* died, it is pretty well known by a Lunar Eclipſe, which, if we may credit *Joſephus*[i], was but a very little while before the death of *Herod*. According to aſtronomical calculations, this Eclipſe muſt have been ſeen the 13th of March, and concerning this particular, thoſe, who wou'd be better inform'd, may conſult *Scaliger* and archbiſhop *Uſher*[k]. Be-

(g) *Antiq.* XIV. 27. 656 8. *coll.* XX. 8. 931.
(h) *u. s.* XIV. 27. 658.
(i) *Antiq.* XVII. 8. 768. 10. 770.
(k) *Ann.* T. 2. ad. M. 4000. Animadv. ad *Eus. chron.* p. 162.

ſides, we learn from *Joſephus*[l] that it was before *Eaſter*, that *Herod*'s ſon, *Archalaus*, ſucceeded him; at leaſt, as far as he was empower'd by virtue of his father's will, altho' it was but ſome months after, that this will was partly ratify'd by the *Roman* emperor.

IV. JUDÆA was govern'd by *Archelaus* between nine and ten years, the laſt year falling upon the VI. of the *vulgar æra*, as may be prov'd from *Dio Caſſius*[m]. He ſays, that *Herod* of *Paleſtine*, having been accus'd by his brothers, was baniſh'd beyond the *Alps*, and his principality ſequeſtred. The date of this year is the conſulſhip of *Marcus Æmilius Lepidus* and *Lucius Arruntius Nepos*; which is the VIth year of the *vulgar æra* juſt mention'd. Now, as the Jewiſh prince mention'd by *Dio* is, by him, call'd *Herod*, it is worth obſerving, that *Archelaus* bears the ſame name in one of the medals collected by *Spanheim*. Beſides, does not every body know, that in the Acts of the Apoſtles[n], *Agrippa* is call'd *Herod*? If the ſecond has his grandfather's, why ſhou'd not the firſt bear his father's name? But, at that time, nothing was more common among kings, than to take the name of their predeceſſor, eſpecially if he was the founder of their empire, or the firſt of the family, or particular branch, inveſted with the regal dignity; as might be inſtanced in the *Ptolemies* of *Egypt* and many others.

However, *Joſephus* tells us, in one part of his works,[o] that *Archelaus* was baniſh'd the *ninth* year, in another[p], the *tenth* year of his reign.

(l) *Antiq.* XVII. 10.
(m) *Hiſt. Rom. L.* 55. *p.* 597.
(n) XII. 1.
(o) *Antiq.* X. *ult.* 788.
(p) *Bell. Jud.* l. 5. 1059.

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This is an apparent, not a real contradiction. It has already been ſhown, that there were two beginnings in *Archelaus* his reign; one, at his father's death; the other, when his ſucceſſion was confirm'd by *Auguſtus*; and between both, there was only a difference of a few months. And beſides, *Joſephus*, in one place, might, if I may uſe the expreſſion, mean *nine* real, and in the other, following that method he ſo often gives the preference to, *ten* conſular years. Of the firſt year, *Archelaus* reign'd about nine months, then eight whole years, and in the tenth, near three months. Moſt ſure it is, that this prince cou'd not, under the conſulſhip of *Lepidus* and *Nepos*, have reign'd, either nine or ten years, unleſs he had aſcended the throne, in the IV year before the *vulgar æra*. But if he has reign'd in this year, *Herod*, whoſe ſucceſſor he was, muſt at the ſame time have ceas'd to reign. And accordingly, it was in this year that *Herod* died.

V. IT may be further added, that immediately after *Archelaus* his baniſhment, *Judæa* was reduced into the form of a *Roman* province. This happen'd 37 years after the battle of *Actium* according to *Joſephus* [q]. And as this year, in his manner of computing, falls in with the VI. of the *vulgar æra*, hence it follows, that *Dio* has exactly ſpecify'd the time of *Archelaus* his baniſhment. And conſequently, this prince having held out between nine and ten years, he muſt certainly have ſucceeded his father *Herod*, in the IV. year before this *æra*; or we muſt give no credit to the joynt teſtimonies of *Dio* and *Joſephus*.

VI. BESIDES, *Philip*, [r] the only man of

(q) *Antiq.* XVIII. 3. 794.
(r) *ubi ſuprà.* 5. 803.

worth and honour in the *Herodian* family, died the twentieth year of *Tiberius*, which anſwers to the XXXIV. of the *vulgar æra*, after he had been *Tetrarch* 37 years. This we learn from *Joſephus*, [s] And it plainly ſhows that *Philip*'s *Tetrarchy* had begun in the ſame year with *Archelaus* his *Ethnarchy*; the year, wherein it has been ſo often prov'd that *Herod* died.

VII. SEVERAL other arguments might be offer'd to ſupport our preſent opinion. But, as they wou'd only ſerve to confirm what, it is preſum'd, has been already fully prov'd, they wou'd be ſuperfluous and needleſs. Therefore, without dwelling any longer upon this head, we ſhall proceed to the *day*, and this perhaps may not be ſo eaſy to determine as the *year* of the *birth* of *Chriſt*, which we have ſhown to be the IV. year before the *vulgar æra*.

VIII. ALTHO' ſome doubts may ariſe concerning the 25th of *December*, yet, as it is an ancient tradition, it is by no means to be ſlighted. However, I wou'd not lay ſo great a ſtreſs upon it as St. *John Chryſoſtom*, [t] who grounds his aſſertion upon *Zechariah*'s high prieſt-hood. His diſcourſe thereupon ſhows he was a man of much ſubtlety and penetration as well as uncommon learning; but with due reverence be it ſpoken, he has not been guided herein by the true ſpirit of criticiſm, and the arguments, he makes uſe of, ſavour more of art than of ſound reaſoning. This tradition, as he tells us himſelf, he was utterly unacquainted with, ten years before; and there is very good room to think, it was far from being generally

(s) *Antiq.* XVII. 10. 770. 13. 785.
(t) εις την γενεθλιον ημεραν. *Hom.* 35.

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receiv'd in the time of *Clemens Alexandrinus*, from whom we learn, that the birth of *Chriſt* was by ſome placed in the month of *April*, and that among his cotemporaries, there were men of great abilities, who fix'd it to the 25th of the month *Pachon* [u] which anſwers the 19th of *May*. What gives a greater appearance of probability to this opinion is the circumſtance of the flocks being out in the fields, during the night-time [w]. But yet, this is far from being ſatisfactory. For I am apt to think that at all ſeaſons of the year, no danger cou'd be apprehended from ſuch a cuſtom, in ſuch a climate as that of *Judæa*, where from ſowing to harveſt-time, they did not uſe to reckon above four months, ſo that it had even paſs'd into a proverb.

Cou'd we rely upon the Apoſtolical Conſtitutions [x], it wou'd add great weight to the evidence of St. *Chryſoſtom*, which, in ſome manner, is ſupported by that of *Clemens* himſelf, who was not, it ſeems, of the ſame opinion with his learned friends, for he ſays, " That, from the birth of " the Lord to the death of *Commodus*, were elaps'd " *one hundred and ninety four years one month and* " *thirteen days.*" Now, as *Commodus* died the 1ſt of *January*, and that *Clemens* reckons after the manner of the *Egyptians*, whoſe year conſiſted of 365 days without intercalation, this wou'd agree with the common tradition, that Chriſt was born on the 25th of *December*.

As for *Chryſoſtom*, we learn from himſelf, that he had receiv'd this tradition from the *Latins*. Accordingly, we find it is obſerv'd by *Ambroſius* in

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(u) I. *Stromat.* Conſul. *Scaliger. Em. Temp.* p. 543.

(w) Luke II. 8.

(x) v. 13. εικαδι πεμπτη τεσσαρων μηνων. *where note: that, in the following chapter, April is call'd the 1ſt month; ſo December is the 9th according to the cuſtom of the Jews.*

his

his ſermons upon feſtivals [y] which follow one another in order, *viz. Chriſtmas*, the *Circumciſion*, *Epiphany*, &c. Now, as the middle feſtival fell upon the *firſt day of the year* [z], it is plain that the firſt feſtival muſt have been a week ſooner. Upon the whole, from what he ſays it cannot be gather'd, that he was the inventor, but rather that he conform'd himſelf to the cuſtom then in uſe, inſomuch that even among the *Jews* and *Heathens*, they were won't, after the generality of *Chriſtians*, to call *Chriſtmas*, *the new Sun* [a].

It muſt be own'd that *Eraſmus*, whom none will deny to be a ſkilful judge in theſe matters, having a great value for *Ambroſius*, and a very mean opinion of theſe ſermons, wou'd have them rejected as ſpurious and unworthy their reputed author. There are others, that are thought to have ſome knowledge this way, who are not ſo very nice and take them to be the genuine work of *Ambroſius*. But this diſpute may be laid aſide as not very material. For (as it has already been ſaid) it appears plainly from *Chryſoſtom*, who flouriſh'd but five and twenty years after *Ambroſius* [b] and died only ten years after him, that in his time, this tradition did not bear a very old date. However, it muſt be acknowledg'd, that great care is to be taken, in diſtinguiſhing rightly between the tradition and *Chryſoſtom*'s arguments to ſupport it. Theſe might be light and groundleſs without hurting the tradition itſelf, which might ſtand upon its own bottom.

As for more modern opinions, even thoſe of the freſheſt date, it is preſum'd they are not to be depended upon, altho' we may be indebted for ſome

(y) *Tomo* m. V.
(z) *Calendas Januarias.*
(a) *Natalis* —— *Solem novum*, &c.
(b) *Ambroſius* died in 397. and *Chryſoſtom* in 407.

of

of them to men of great parts and learning. For after all, conſidering the inability we labour under of fixing with any certainty the *real day*; would it not be better to remain contented with the *nominal day*, as that, which has receiv'd a kind of ſolemn ſanction from cuſtom, and for which a long preſcription and right of poſſeſſion may be pleaded? At the ſame time, it muſt be ſuppos'd, it neither contradicts nor deſtroys any of the known circumſtances of the hiſtory of our Saviour, but on the contrary, they agree much better with this hypotheſis than with any other; and as this aſſertion cannot, I believe, be call'd in queſtion, we may reſt ſatisfy'd with it, till the truth be better known.

Upon the whole, it is not properly the day itſelf, in an exact chronological preciſion, that we are bound to keep and celebrate; it is the bleſſed event itſelf, which at all times deſerves, from all who call themſelves Chriſtians, the moſt religious praiſes and accumulated thankſgivings.

I am

SIR,

London, Decemb. 21, 1737.

Yours, &c.

Nº 10. *Saturday, January* 7, 1737-8.

Solæ communes natos, conſortia tecta
Urbis habent, magniſque agitant ſub legibus ævum;
Et patriam ſolæ, & certos novere penates.

VIRGIL.

MY chief intention, in what I publiſh'd the week before laſt, was to ſhew, that inſects are not ſo contemptible as they are generally thought: I endeavour'd, at the ſame time, to give a general notion of this branch of natural knowledge to thoſe who were wholly unacquainted with it. In this paper, I ſhall more particularly ſpeak of one ſort of theſe little creatures, that form a kind of body politic, and ſeem to be influenced by laws, as well contriv'd, as thoſe of the beſt regulated ſocieties amongſt us. Their labour turns wholly to the advantage of the public: They are all of one mind, have no ſelfiſh views, neither do they know any other diſtinction, but what nature or the neceſſary ſupport of their little ſtate requires. They are perfectly free; for they have no dependance, but upon thoſe laws they conſtantly follow: They are perfectly happy; for their mutual good offices and reſpective employments never fail producing public plenty, which diffuſing its ſelf equally among all the members of their ſociety, anſwers all the ends of private wealth. Where can we find ſuch a diſintereſtedneſs and

and good order among our own ſpecies? and, yet, it may be daily ſeen in a *Bee-hive*, which might more properly be call'd a republic of *Bees*.

Of theſe there are three ſorts. Firſt, the common Bees, who make up the bulk of the nation, and appear to be neither male nor female; they have a trump, or pumping pipe, to work withal, and a ſting, to repel the invaders of their property. Next are the Drones, of a darker colour, and one third longer and bigger than the Bees. Of this kind, a hundred, or more, may be found in a middling hive of ſeven or eight thouſand Bees, and ſo proportionably in a more numerous hive. Laſtly, there is a third ſort, ſtill larger and ſtronger than the drones, and arm'd with a ſting, like the common Bees. Of theſe there is but one in a hive, or at leaſt but one for each ſwarm, or company of younger Bees, that from time to time leave the hive in order to ſettle a colony abroad. Whether this Bee of a ſuperior ſize ſhou'd have the Name of king, that was given to it by the ancients, or be call'd the queen, as is pretended by ſeveral learned modern authors, is not yet decided. For my part, I muſt own I am of the opinion of theſe laſt; for, by making uſe of a glaſs-hive, they have obſerv'd this royal Bee, to go from cell to cell, in each of which, after her withdrawing, was found a ſmall egg; whence they conclude her to be the female of the ſpecies. In this manner, ſhe lays ſeveral thouſand of eggs, and by means of two or three other Bees of her kind, ſhe may ſee her children's children, to the number of eighteen thouſand, all ſprung from her, in the ſpace of one ſummer. Her own cell, the higheſt of all, ſhe leaves but very ſeldom. She advances with a ſolemn majeſtic gate, attended by the drones, and ſometimes by all the reſt of the Bees. As ſoon as ſhe appears, there are great rejoycings in the hive; every body runs to meet her; the Bees all cling together by intangling their feet one in another. By this means

they form a kind of veil or curtain, drawn on purpoſe no doubt, to hinder the inquiſitive obſerver from prying into the buſineſs of propagation, which all the while is ſuppos'd to be going forwards.

For higher of the genial bed by far
And with myſterious reverence they deem.

The drones are thought to be the chief officers employ'd in this ceremony; what elſe ſhou'd they be good for? they are fit neither for labour, nor defence: They have all, 'tis true, in their belly, a bottle of honey like the other Bees; but there is this eſſential difference. In the common Bees, this bottle has a little pipe, reaching to the neck, by the means whereof they depoſit their honey in the public ſtores; but in the drones, there is no ſuch pipe. Beſides, thoſe, who by the help of good glaſſes have been at the pains of diſſecting them, tell us, they have plainly diſcover'd they were duely qualified to be husbands to the queen, or rather, child-getters to the common-wealth.

As for the work-men, or common Bees, their body is by two threads ſeparated into three diſtinct parts, the head, breaſt, and belly. The head has two jaws and a trump or pumping pipe. The motion of the jaws, as they cloſe or open, is from left to right, or ſideways; theſe are of uſe to them to lay hold on the wax and to knead it. The trump, or pumping pipe, is pretty long, peaked, and very ſupple and eaſy to be mov'd; this enables the Bee to dip it into the very bottom of flowers, in order to pump up and collect the ſcatter'd juices, and carry off her load; but as this trump, were it always extended, might eaſily be broken, and wou'd be ſubject to a thouſand little accidents, it is, for this reaſon, made up of two pieces, join'd together by a ſpring, ſo that it may be ſhortened or folded up; it is moreover ſecur'd by the help of four ſcales that incloſe it on all ſides.

To

To the breaſt are faſtened their ſix legs, and four wings; two large ones, and two ſmaller, that are of uſe, not only in flying, but wherewith to make a noiſe or buzzing, in order to give notice of their arrival and departure, and chear one another as they work. At the end of their little paws, or legs, are two ſmall hooks, ſomewhat like a reaper's ſickle; they are of great ſervice to the Bee to catch or hang by, and, that ſhe may walk with more eaſe, they are laid upon two cuſhions of a ſoft ſpungy ſubſtance.

The Bee's belly has ſix rings, that are ſhorten'd or lengthen'd by ſliding one over the other: The inſide conſiſts of three parts; the inteſtins, bottle of honey and ſting.

The inteſtins, as in all other animals, ſerve for the digeſtion of food; the bottle is as tranſparent as glaſs, and contains the honey collected from flowers by the Bee, whereof a ſmall quantity remains to nouriſh her, but the beſt part is carefully laid up in the cells of their warehouſe, to ſuſtain them in winter. The bottle of gall, or venom, is at the root of the ſting, thro' which, in caſe of need, as thro' a pipe, the Bee pours ſome drops of it into the wound to increaſe the pain.

The ſting its ſelf conſiſts in three parts; a ſheath or ſcabbard, that is ſharp-pointed, and is ſlit a little lower than the point, in order to leave a paſſage free for the venom; and two darts, whoſe ſides, like a bearded arrow, have little ſpikes ſticking out of them, which frequently hinder the Bee from pulling her dart out of the wound; eſpecially, upon any ſudden motion in the perſons that are ſtung: but if they have patience enough to be quiet, ſhe depreſſes and lays cloſe to the dart theſe lateral points; this enables her to pull out her dart with eaſe, and cauſes leſs pain. The ſheath itſelf being pretty ſharp, lays open the wound, then the darts ſtrike in, and increaſe it, which is follow'd by the effuſion of the envenom'd liquor. Tho' this ſheath holds by muſcles,

ſufficiently ſtrong to enable the Bee to draw it out again, yet, it is often engaged ſo deep, that both the muſcles and ſting remain in the wound. This, together with the ſhedding of the venom, cauſes a fermentation and ſwelling, that will laſt ſeveral days, but that may be prevented, by immediately taking out the ſting, and widening the wound, ſo as to give it air, and room for the venom to run out. So induſtriouſly has nature provided theſe little creatures both with arms and tools!

In order to make uſe of them, they generally divide themſelves into four diſtinct troops, or bodies. The firſt are ſent abroad to gather materials for the building of their cells, as glue and wax, which they find upon divers kinds of flowers; ſome, that are employ'd at home, rough-hew, and begin to faſhion the whole; others are buſied in poliſhing, taking away what exceeds, and finiſhing. The laſt are purveyors for thoſe that are at work and bring them their victuals. They are wonderfully neat and exact, and ſo diligent, that a nice obſerver has taken notice, that a honey-comb, with a double row of cells, of a foot long and ſix inches wide, had been finiſh'd in a day, and afforded ſufficient lodging for three thouſand Bees.

The bottom of theſe cells terminates in a point, in order to receive the little egg, and to gather the heat, as in a common center: they are not perfectly round, but are made up of ſeveral angles or corners, that are joyn'd ſide to ſide, and tally exactly one with the other. The combs are all, of two rows of cells, at the back of one another: They are perpendicularly ſuſpended, with an interval between them, wide enough for the Bees to paſs thro', and yet, ſufficiently narrow, to preſerve what degree of heat may be requiſite. By this means is hatcht the little worm incloſ'd in the egg. As ſoon, as he is crept out of it, he has honey brought to him, from time to time, by a Bee. After ten or twelve days, when

it

it may be ſuppos'd he has had nouriſhment enough, one of the Bees ſtops up, with wax, the mouth of the cell. At a fortnight's end, the ſecluded worm ſheds his ſkin, which cleaves to the walls of the cell, and nicely fits all the angles or corners of it. For two ſummers running, each cell ſerves for three or four worms one after another, and is every time render'd, both ſtronger and warmer, by the addition of this new ſet of hangings; the next, or oppoſite cell, being furniſh'd in the ſame manner, the whole building grows thereby more ſolid and compact. It muſt indeed be own'd, that ſo many ſkins clapp'd one upon another muſt in time very much ſtreighten the cell; but in this caſe, the Bees, that are admirable managers, put theſe cells to another uſe: they lay up their honey in them, and, thoſe that heretofore ſerv'd for ſtore-rooms, they leave their eggs in. As ſoon as the worm has diſpos'd, in this manner, of his ſkin, he is turn'd into a nymph, and the nymph into a Bee, that breaks thro' the wax covering, dries her wings, wanders from flower to flower collecting wax and honey, and readily performs all the duties of her ſtation.

If this account is not diſpleaſing to my readers, I ſhall, in ſome other paper, endeavour to entertain them, with as many other particulars of the policy of this little common-wealth, as ſhall come to my knowledge. In doing of which, I ſhall not ſcruple borrowing ſeveral uſeful hints, as I have already done, from an ingenious *French* author, whoſe works * are not only highly valued abroad, but have, as I am inform'd, been tranſlated into *Engliſh* and receiv'd with applauſe here among us.

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* *Spectacle de la Nature.*

To the Printer of the Weekly Eſſay *or* Middleſex Journal.

SIR,

IT is with no ſmall ſatisfaction I have peruſed your paper upon Inſects bearing date *December* 24th. What you ſay in the beginning of it, about our comparative way of judging of things, ſeems to me to be very juſt and reaſonable; but you do not ſtop here, nor barely content yourſelf with the effect; but you trace it up to the cauſe. You are certainly right in your aſſertion that to ſelf-love muſt be attributed this wrong way of judging; and I was alſo mighty well pleas'd with your concluſion upon this head. That, *both what is infinitely great and infinitely little proves equally the infinite wiſdom and power of the maker. The ſmalleſt pebble is form'd by the ſame cauſes as the hugeſt rock, the loweſt ſhrub owes its growth to the ſame principle of vegetation, as the talleſt oak, and all that is requiſite to animal life is to be found in a mite as well as an elephant.*

But in this I think you might ſtill go farther. For if we conſider matter as having parts, we muſt apprehend theſe parts to belong to it of neceſſity, and that the leaſt particle (be it the ſmalleſt we can conceive) when upon a plane (or flat even ſuperficies) muſt at the ſame time it touches it in one part, not touch it in another. Hence it follows, that the ſmalleſt portion of matter conſiſts of parts; and as all matter has its particular figure, be it ever ſo great or ever ſo ſmall, we muſt conceive, that the greateſt

as

as well as the ſmalleſt have their proper ſimetry, ſhape and proportion, and that not only theſe groſs bodies which we may ſee with our naked Eye, but infinite numbers of others very ſmall, which eſcape our ſight, and were not known at all by the ancients; as for example the little eels which ſpring up almoſt in a moment in the beſt ſort of vinegar, ſet in the warm ſun, nor had we known of theſe ſmall creatures to this very day were it not for the happy invention of the microſcope. The mould upon the cover of a book have been long obſerv'd, and alſo a mite, which is much leſs than a grain of ſand, is an animal, becauſe we can ſee it move along; but it is ſince the invention of microſcopes that we can with pleaſure ſee, that not only they are ſo, but that every ſpeck and mould is a little garden, covered with plants, every one of which has its ſtalk, leaves, buds and flowers: and that a mite has its back covered with ſcales; that it has three feet on each ſide and two black ſpots in the head, which are ſuppoſed to be the eyes, becauſe if a point of a needle be put in its way, it will turn aſide; and ſince ſuch ſmall parts are ſeen by the help of a microſcope, we may reaſonably judge, that there are parts incomparatibly leſs yet, which eſcape all our ſenſes, all our inquiries and exceed even our imagination itſelf. And in order to clear this matter a little more up by example; ſince a mite walks along, it muſt have legs theſe legs muſt of neceſſity have joints; in order to move theſe joints there muſt be muſcles, nerves and tendons; and in theſe nerves fibres, ſuch as we ſee in thoſe of larger animals, or at leaſt ſomething equivalent to them. And if we could carry our conſideration yet further, and ſpeak of the heart, blood, brain, and animal ſpirits, we ſhould be quite at a loſs and forc'd to confeſs that our imagination is unable to comprehend or repreſent the extreme ſmallneſs of the leaſt parts of which a mite is compoſed.

Such

Such hints as theſe might (I think) by an able hand be further improv'd. In the mean while, I can aſſure you your paper is very much valued in theſe parts, and as for me in particular I think, my ſelf oblig'd to let you know that I am,

SIR,

YOURS.

N° 11. *Saturday, January* 14, 1737-8.

Ducit Amazonidum lunatis agmina peltis
Pentheſilea furens, mediiſque in millibus ardet,
Aurea ſubnectens exertæ cingula mammæ,
Bellatrix, audetque viris concurrere virgo.

VIRGIL.

The following letter, coming from a lady, requires no apology. I ſhall inſert it, word for word, juſt as I receiv'd it.

SIR,

'IT was with a good deal of pleaſure I obſerv'd, in reading your firſt paper, that you had an eye to the improvement and amuſement of our ſex. This has made me more diligent in the peruſal of thoſe ſheets, you have ſince publiſh'd, than perhaps,

'perhaps, I ſhou'd otherwiſe have been. You muſt
'know, it was always my opinion, that women were
'as well qualify'd for polite learning as men, and that
'the active was the only part of life, as cou'd be
'ſaid to be out of our ſphere. But I have lately
'found, as to this laſt particular, I was very much
'miſtaken. For I happen'd, a day or two ago, to
'dip into a *French* book (which I refer you to)
'that gives an account of warlike women, who be-
'hav'd themſelves in ſeveral encounters, with as
'much ſpirit and gallantry as the beſt man of you all.
'I was not, you muſt think, a little pleas'd with a
'relation ſo highly redounding to the honour of my
'ſex; and thought that if I communicated it to you,
'you might work it up, ſo as to make a very good
'weekly eſſay out of it. You might add a great
'many things, as if there was any among the an-
'cients, and when they liv'd, and what conqueſts
'they made, and if they did not make a better uſe
'of their power than you men do. All this me-
'thinks wou'd be very curious and inſtructive.
'Then, you might examine how far ſuch a practice
'might be uſeful and convenient if reviv'd in theſe
'times; and eſpecially, whether an army of women,
'here among us, wou'd not as well ſerve all the
'purpoſes of the court, without giving ſo much un-
'eaſineſs and jealouſy to the country party, as one of
'men; by which means you might in ſome meaſure
'reconcile them. What cou'd be a prettier enter-
'tainment for the youth of Great Britain, or a
'greater incentive to noble actions, than, on a fine
'day neither rain nor ſunſhine, to ſee their country-
'women, properly arm'd and equipp'd, go thro'
'their exerciſe. I imagine it wou'd be equal, at
'leaſt, if not ſuperior to any of our reviews. For
'my part, I cannot, for my life, forbear thinking,
'that without vanity, I ſhou'd cut as good a figure
'at the head of my company, with my half-pike in
'my hand, cockade in my hat, and tuck'd up curl'd

'hair, as the ſmarteſt young officer in the guards. 'Then, Sir, ſuppoſe we were to ſet a project on 'foot to raiſe a conſiderable body of tall women, who 'wou'd ſtill appear much cleverer and taller, did we 'dreſs them in the high commodes that were for-'merly worn by our grand-mothers. I am perſuad-'ed they wou'd be a ſight tantamount to the king of '*Pruſſia*'s tall grenadiers, and wou'd be of as great 'uſe to *England* as they have been to his country, 'and be no leſs known to poſterity, by their re-'nown'd exploits and great archievements, than the 'invincible troops of that humane and heroic prince. 'If you will put in order theſe looſe hints, I do not 'doubt but they will be of great ſervice to you, and 'I give you my word, it ſhall never be known you 'were help'd to them by,

SIR,

Your humble Servant

AMAZONIA.

In the book referr'd to by my fair correſpondent, and quoted at the bottom of the page * I have found in ſubſtance what follows. In an irruption of the inhabitants of the adjacent parts of mount *Caucaſus* into *Muſcovy*, they attempted to invade *Mingrelia*. After a ſharp engagement, being over-power'd by numbers, they were at laſt intirely defeated and moſt of them left breathleſs upon the ſpot. What is moſt remarkable is that among the dead were found as

* *Lamberti relat. de la Mingrelie & de la Colchide.*

many

many bodies of women as of men. The victors brought to their Prince, at *Dadian*, among the reſt of the ſpoils, the arms of theſe women, as the moſt conſiderable part of their trophies. They were very much beautify'd, and adorn'd with all that care and exactneſs ſo peculiar to the fair ſex in relation to dreſs: Their helmets, that were painted, were ſet off with party-colour'd plumes of feathers: Their cuiraſſes and braſſets were made of ſeveral thin plates of iron, which did lie upon and run into one another, ſo that they eaſily follow'd every motion of the body: To the cuiraſs or breaſt-plate was tied with ribbons, diſpos'd in feſtoons, a kind of petti-coat, that did not reach lower than the calf of the leg, made of woollen ſtuff, not unlike our ſerge, but of ſo glowing and lively a red, that it cou'd hardly be diſcern'd from our fineſt ſcarlet cloth. Their buſkins were as ſo many ſpangles, not of gold, but of ſome metal very much like it, bored thro', and faſtened or ſtrung together with ſmall chains of goat's hair, weav'd with wonderful ſkill, and of the greateſt fineneſs and delicacy: Their arrows were four palms long, painted or gilt, and headed with the moſt curious kind of ſteel, not ſharp-pointed, but of about three or four lines in breadth at the end, like the edges of cizars.

Theſe *Amazons*, it ſeems, are often in war with the *Calmuck Tartars*. The prince of *Mingrelia* promiſed his *Circaſſian* ſoldiers great rewards, cou'd they bring him one of theſe women alive, if ever in ſuch like engagement, any of them happened to fall in their hands.

This account agrees pretty well with what I have met in *Chardin*'s travels, who ſpeaking of his voyage to *Colchis* expreſſes himſelf in this manner, concerning a kind of *Amazons*, who do not live far from thoſe parts.

I have had ſays he, a good deal of talk upon this ſubject with the king of *Georgia*'s ſon. He told me

among other things, that beyond *Caket*, about five days journey towards the north, dwells a great people, who being, by their ſituation, inclos'd on all ſides, and as it were, ſhut up within mount *Caucaſus*, are known only by their perpetual wars with the *Calmuck Tartars*. For it is obſerv'd, that all theſe nations, that inhabit *Caucaſus*, ſeldom or never live in peace, and little is to be got by treating with them, for they are a wild faithleſs people, not to be reſtrain'd by laws and under no government. This obliges that king to be upon his guard, and never to leave his frontiers, that he may always be in a readineſs to put a ſtop to their ſudden invaſions.

The prince added that he was of opinion, they muſt be deſcended from the wandering *Scythians*, as well as the *Tartars*, the *Turcomans*, and the *Arabians*. That their cuſtom was to confer the ſovereign authority upon women, in the ſame manner as the people of *Achin*, in the iſland of *Sumatra*, and thoſe of *Borneo*. And that their queens were attended and waited upon by perſons of their own ſex who follow'd them every where. It is eaſy to conceive that it was abſolutely neceſſary for theſe women-attendants, to ride and carry arms, as well as men. And indeed, in ſeveral places, but eſpecially in the *Eaſt*, women in relation to horſemanſhip are not at all inferior to men, and it is the cuſtom there for princeſſes, to wear daggers by their ſide. As for their cutting off their breaſts, this, without injuring truth, may be look'd upon as a fictitious invention of the *Greeks*. Theſe inhabitants of *Caucaſus* are the ancient *Huns* or *Alani*, and it is by a Nation of Amazons that this little kingdom of *Caket* has been ravag'd in our time. Both ancient and modern Geographers place them in the ſame part. To this day, ſeveral people bring news from thence, and I was ſhewn, at the prince's, a large woollen coat, of a peculiar cut and make, which was ſaid to have been worn by an *Amazon*, who had been kill'd near *Caket*

ket during the laſt war. We may ſoon expect ſomething ſurer concerning theſe celebrated female warriors, ſince the *Capuchins* of *Teflis* intend to go and eſtabliſh a miſſion there.

Thus far Sir *John Chardin*; but I cou'd never hear what had been the ſucceſs of the *Capuchins* of *Teflis*, nor what farther diſcoveries they had made: and indeed I am apt to think, that unleſs they had ſent ſome of their *Novices*, the number of their proſelytes cou'd not be very conſiderable. Or rather, wou'd not a detachment of tight well built dragoons, pick'd out of every regiment for their ſtrength and agility, prove the beſt miſſionaries in that, as well as in this part of the world? No doubt, they wou'd, meet with as much ſucceſs in this undertaking, tho' they ſhou'd not make uſe of fire and ſword, nor be quite ſo cruel, as in that honourable expedition, they were employ'd in by the *grand monarque*, againſt his proteſtant ſubjects. Upon the whole, I am not without fear, that thoſe venerable fathers might be taken by thoſe ladies, unus'd to ſuch ſights, for *European* he-goats, whom it cannot be deny'd they very much reſemble, were it only by their ſlovenneſs and long beards, and ſo confin'd to the ſtables, to keep the bad air from the horſes; a ſervice theſe creatures, I mean he-goats, are generally put upon, all over the *Eaſt*.

But *Africa*, as well as *Aſia*, claims the honour of having produced women of a military genius, if we may truſt to the following account.*

A queen of *Angola*, whoſe name was *Anna Ginga*, having been diſpoſſeſs'd of part of her realms by the *Portugueſe*, made an alliance with the *Dutch*, and by their aſſiſtance, drove the others out of the kingdom of *Angola*. But having found by experience that the neighbourhood of

* *P. Lobo Hiſt. d'Abyſſinie.*

thoſe,

thoſe, ſhe had call'd in, was not more advantageous to her than that of the *Portugueſe*, ſhe treated with theſe laſt, and by her ſkill, both in war and negotiations, ſhe not only recover'd her kingdom, but enlarged her dominions, and ſaw herſelf, before her death, ſovereign of an empire 400 leagues in length, in the midſt of *Africa*.

She perſonally ſignalis'd herſelf in ſeveral battles, both againſt the *Europeans* and thoſe of *Congo*, and what is more ſurpriſing, or rather ſhocking, if we may take in a litteral ſenſe the words of the learned *Voſſius*,* ſhe has been ſeen *drunk* with the *blood* of thoſe ſhe kill'd.

There is another circumſtance not ſo ſtrange and horrible, tho' no leſs remarkable. In imitation of thoſe potentates, who look upon a ſeraglio, fill'd with handſome women, as an appurtenance of their princely dignity, ſhe, on her ſide, had one well ſtored with a ſet of brawny young fellows, no leſs than ſixty in number, ſays my author. She died at the age of 80 in 1660.

Had I room left in this paper, I ſhou'd, with a great deal of pleaſure, comply with the requeſt of my fair correſpondent, and endeavour to anſwer her queries the beſt I cou'd. Such a ſubject wou'd, no doubt, afford matter enough for ſpeculation, and be of no ſmall entertainment to the curious and inquiſitive reader. For this reaſon I intend to take it up again ſome other time. In the mean while, I ſhall conclude with a ſhort and ſummary account of the ancient *Amazons*, ſuch as it is given by *Juſtin*.†

Two princes of the blood Roval, among the *Scythians*, were by a prevailing faction expell'd their native country. Follow'd by great numbers of bold and indigent youths, they re-ſh'd the con-

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* *De Flumin. orig.* † II. 4.

fines

ſines of *Cappadocia*, and ſettled upon the banks of the river *Thermodon*. Here they liv'd ſome time upon the ſpoils they took from their neighbours, who, at laſt, joyn'd in a league againſt them, ſurpris'd them together with their forces in an ambuſcade, and put them all to the ſword. Their wives ſeeing themſelves depriv'd of their husbands as well as country, inſtead of ſinking under ſo great a calamity, aſſum'd an undaunted courage, ruſh'd to arms, and having at firſt repuls'd the enemy, ſoon invaded his frontiers and turn'd the defenſive into an offenſive war, which ended in a total extirpation of thoſe they look'd upon, as the murderers of their husbands. And finding by what neceſſity had forced them to, that brave women needed not the protection of men, they reſolv'd to live without them, looking upon wedlock as a voluntary ſlavery.

But as theſe exalted ſentiments did not exempt them from death; and they foreſaw that in a ſhort time, for want of ſucceſſors, their wiſe maxims and regulations muſt come to nothing; in order to prevent ſo great an inconveniency, they receiv'd, at ſtated times, the viſits of ſome of the neighbouring nations, by which means they recruited their numbers. The boys, they deſtroy'd, as ſoon as they were born; the girls, they brought up, not to ſpinning and other houſewifely employments, but to riding, hunting, and the exerciſe of arms; having taken care, when infants, to ſear off their right breaſt, leaſt it ſhou'd hinder the ready uſe of the bow and arrow.

They had two queens, *Marpeſia* and *Lampeto*; who, each in her turn, defended their boundaries and had the management of military affairs; and who, in conformity to the ſuperſtitious cuſtom of the age they liv'd in, gave it out, that they were the daughters of *Mars* the god of war. After ſeveral victories obtain'd, and great things perform'd,

form'd, of which the building of *Epheſus* was none of the leaſt, *Marpeſia*, with that part of the army under her command, was cut off in an inſurrection of the barbarous nations againſt her. Her place was fill'd up by her daughter *Otrera*, who, ſays our author, beſides her thorough knowledge of the art of war, ſtands upon record the wonder and admiration of all ſucceeding ages, for the conſtant preſervation of her chaſtity. So differently did one think in *Juſtin*'s time from what one does in this: For what lady wou'd have it inſerted in her panegyric that ſhe liv'd and died an old maid?

After this virgin-queen, whoſe hiſtory is intermixt with ſeveral fabulous ſtories which I purpoſely omit, reign'd *Pentheſilea*, who went to the aſſiſtance of *Troy* againſt the *Greeks*, and diſtinguiſh'd herſelf very much among the heroes of that ſiege. But, at laſt, herſelf being kill'd, and her army diſpers'd, thoſe few, that had remain'd in the kingdom, but with much difficulty defended themſelves againſt their enemies. However the *Amazons* ſubſiſted, as a nation, till the time of *Alexander* the great. Their queen *Thaleſtris*, the fitteſt match in the world for him, ſpent, at her own requeſt, thirteen days, or rather, thirteen nights, with that conqueror. After which, ſhe retir'd into her kingdom, and neither ſhe, nor the people ſhe govern'd, have been ſince heard of.

N° 12. *Saturday, January* 21, 1737-8.

High on a throne of royal ſtate, which far
Outſhone the wealth of Ormus, *and of* Ind;
Or where the gorgeous Eaſt, *with richeſt hand*
Showers on her kings Barbaric *pearl and gold,*
Satan *exalted ſat* ——

MILTON.

THE peculiar beauty of the ſimile, I have choſen for a motto to this week's paper, taken from the beginning of the ſecond book of *Paradiſe loſt*, is not, I believe, perceiv'd by many of thoſe, who read it, for want of knowing a particular cuſtom alluded to by the poet, which is as follows. In the great *Mogul*'s dominions (call'd by moſt Geographers *proper India*) it is uſual for that Prince, on a fixt day of the year, I think, it is his birth-day, to be put into a pair of ſcales and weighed with great ſolemnity; and if he proves heavier than the year before, his ſubjects make as great rejoicings, as if he had obtain'd the moſt ſignal victory; and ſhew as much ſatisfaction, as if he govern'd his realms with the greateſt prudence; theſe people being of opinion, that a man of weight in the litteral, muſt be ſo too in the figurative ſenſe, and that a ſtateſman's wiſdom increaſes proportionably to his bodily bulk. Whilſt the Monarch, in great

ſtate, ſits in the ſcales, the princes and princeſſes of the blood, the great officers of the crown, army and houſhold, miniſters of ſtate, *&c.* ſtrew him with gold and pearls, as heretofore the ancient *Greeks* ſtrew'd, with flowers, the conquerors at the olympic games. This is the ſhower meant by *Milton*. I have been led into an account of it, by a letter from an unknown correſpondent, who ſeems to be a great admirer of what is call'd by the poet the *gorgeous Eaſt*. Whoever this correſpondent may be, I hope, he will not be offended at the liberty I have taken of rectifying ſome ſmall miſtakes, retrenching a few compliments, for which I thank him, but that the public has nothing to do with, and in ſhort, altering his letter ſo far, as to make it appear in the form of one of my own eſſays.

AMONG all the deſpotic princes, mention'd by hiſtorians and travellers, none are more powerful and wealthy than the ſovereigns of *India*; and of theſe, none more talk'd of than the renown'd *Timur-bec*, generally known under the name of *Tamerlane*. This prince was not (as has been preſumptuouſly aſſerted and credulouſly believ'd) at firſt ſetting out into the world, a ſhepherd, or a public robber; but on the contrary, a prince of the royal blood of the *Moguls*, deſcended from *Genghiz-can*, one of the greateſt men and moſt illuſtrious princes that ever fill'd the throne of *India*. Between him who died in the year 1226 and *Timur-bec* who was born in 1336 during the ſpace of one hundred and ten years reign'd over *India* twenty-one emperors, the iſſue of *Zagataï-can*, ſon of *Genghiz-can*. Hence it is plain, that nothing can be more contrary to truth than that prevailing error, that *Tamerlane* was a kind of knight-adventurer, a mere king *Theodore*, whom his boldneſs and enterpriſing genius has rais'd from

from the loweſt to the higheſt rank. The authority, upon which this my opinion is grounded, is the hiſtory of that monarch, written in *Perſian* by a cotemporary of his, whoſe name was *Chereffedin-Ali*, and tranſlated from the original into *French*, by *Monſieur Petis de la Croix*, arabic profeſſor, and interpreter of the Eaſtern languages to the *French* king. This is a very valuable work as being not only a very exact narrative of the actions of *Tamerlane*, but alſo as it contains, what I believe can be found no where elſe, a very particular account of the manners, politics, and art military of the *Indian Tartars*.

Tamerlane was a lover of juſtice and encourager of learning. But a fondneſs for war was his chief characteriſtic, and what has diſtinguiſh'd him moſt are his conqueſts. He extended his dominions on all ſides, forced the famous wall of *China*, and ſubdued the greateſt part of the Eaſtern world. But the chief and moſt conſiderable of his victories was that which he obtain'd over *Bajazet*, Sultan of the *Turks*, whom he took priſoner. The *Turkiſh* hiſtorians enrag'd at the ſhameful defeat of their Sultan, and the glorious ſucceſs of his adverſary, invented, out of envy and in order to aſperſe *Tamerlane* with cruelty, the well known fable, that he had confin'd *Bajazet* in an iron cage, obliged him to ſtoop, in order to make uſe of his neck, as of a foot-ſtool, to get on horſeback, and expos'd him to the laughter and contempt of the rabble. But no ſuch thing is to be found in the book above quoted. Beſides, it contradicts the general cuſtom of the Eaſt, where, in order to render deſpotic ſway more venerable in the eyes of the vulgar, ſovereign princes treat one another with the utmoſt honour and reſpect; and when any of their noble competitors are, by them, made captives, they generally order them to be preſently executed in private; or elſe confine

them for life to ſome palace or ſeraglio, where they are generally ſerv'd and attended in a manner ſuitable to their birth and dignity.

To this political regard ſhewn by one potentate to another, in *Europe*, as well as *Aſia*, may perhaps be attributed the ſo much admir'd conduct of *Edward*, the black prince, in relation to *John*, the *French* king, upon whom he waited at table, the very evening of the day, in which, he had taken him priſoner, at the never to be forgotten battle of *Poictiers* [a] and whom he afterwards follow'd at his public entry in *London*, himſelf upon a little pad, and the captive-king upon a fine manag'd war-horſe, richly adorn'd with coſtly trappings. This uncommon behaviour in ſo young a prince has been very much extoll'd by moſt hiſtorians (and by *Barnes* and *Rapin* in particular) as the greateſt inſtance of modeſty, good nature, generoſity, magnanimity and the like. And far be it from me to detract from the praiſe juſtly due to that heroic youth, than whom a wiſer nor a braver never wore the princely creſt [b] nor *ſerv'd* a king and a father with more honour and fidelity. All that I wou'd hint at here is, that there might be a mixture of policy and greatneſs of ſoul in this prince's conduct, who being the ſon of a king, and himſelf in all probability to aſcend a throne, was willing to ſhew his ſubjects in what manner kings were to be treated, however depreſs'd by

(a) *This Battle was won by the Engliſh over the French in* 1356. See RAPIN'S Hiſt. of ENGLAND, Book X.

(b) *The prince of Wales his creſt, being three Oſtrich's feathers, with this motto* ICH DIEN, I ſerve, *was embroider'd upon the king of* Bohemia's *banner, at the Battle of* Crecy, *in* 1346; *which was won of* Philip *of* France *by* Edward *the Third. The king of* Bohemia *being ſlain in the heat of the fight, his banner was brought to* Edward, *the black Prince, who had very much diſtinguiſh'd himſelf during the whole action, and who ever after in memory of the day wore that creſt which has been kept by all his ſucceſſors.* See Rapin.

fortune;

fortune; and to perſuade them of the truth of this maxim, *debilitatam majeſtatem nunquam interire*, that the majeſty of kings, may be weaken'd, but can never be intirely deſtroy'd.

But to return from whence we digreſs'd. The degenerate ſucceſſors of *Tamerlane*, by their utter neglect, both of civil and military affairs, brought that empire, to the loweſt ſcorn and contempt, which he had rais'd to the higheſt pitch of glory. They took more delight in the bath than in the field, in the women's apartment than in the council chamber; they gave up thoſe hours to ſoftneſs, dalliance, or more brutal pleaſures, which they ſhou'd have ſpent in the cabinet, with their miniſters; in the camp, with their ſoldiers; or in a public audience, adminiſtring juſtice to their ſubjects. Thus they continued meer pageants of ſtate, the outſides of kings, cyphers, that fill'd up the vacancy of the throne; till, at laſt, *Aureng-zeb*, a man of a daring and active ſpirit but of deep diſſimulation, abhorring the effeminacy of his predeceſſors diſtinguiſh'd himſelf by his bravery, but more ſtill by ſacrificing to his towering ambition whatever came in competition with that favourite paſſion. The prince to whom he ow'd his birth prompted by his reſentment for ſome injuries, he cou'd not brook, rebell'd againſt his father and emperor, and attempted to uſurp a crown which wou'd have quietly deſcended to him after his parent's death: for he was actually in arms when the old king died; thoſe, to whom was entruſted the management of public affairs, well knowing that *Aureng-zeb*'s father was not their friend, proclaim'd *Bulloquei*, grandſon of the deceaſed king, whom they intended ſhou'd reign in his ſtead. The enraged prince, routed the forces of *Bulloquei*, purſued him, took him priſoner and ſtrangled him, and was univerſally acknowledged as great *Mogul*, under the name of *Chah-Jehan*.

This

This monarch's reign was peaceable, until his four ſons, *Dara*, *Sujah*, *Aurengzeb*, and *Morat*, imitating their father's conduct, grew rebellious, each of them ſeparately aſpiring to the throne. *Aureng-zeb*, being a greater proficient in the art of diſſembling than his brothers, thought he cou'd beſt hide his ambitious deſigns under the coarſe garb and humble demeanour of a poor Faquir, or mendicant Fryar; bidding in all appearance, farewell to the pomp and grandeur of the world. In the mean while, he made uſe of all his cunning to exaſperate his brothers one againſt another; in which he ſucceeded ſo well, by inſinuating groundleſs ſuſpicions, and fomenting mutual jealouſies, that in a ſhort time, the three princes took up arms, without knowing what they were about to undertake, or being able to aſſign a reaſonable cauſe for ſo doing.

During theſe inteſtine broils, *Aureng-zeb* adher'd to the weakeſt ſide, declaring that he was biaſs'd by no private views, and that he had only at heart the public welfare and the reſtoring the kingdom to its former ſtate of tranquility. In the mean time, by his winning and affable behaviour, ſeeming diſintereſtedneſs, and engaging promiſes, he gain'd the friendſhip of moſt of the lords or *Omrahs*. When he thought himſelf ſtrong enough, he threw off the maſk and no longer conceal'd his pernicious deſigns. Then did his brothers diſcover but too late, that they had all the while been working their own ruin and his advancement; and that their deſtruction was the foundation, upon which, he intended to build his future greatneſs.

The firſt ſtep he took was the confining his father priſoner in a ſtrong place, to which he had fled for ſafety, where he died ſix years after. *Aureng-zeb*, as ſoon as he had ſecured his father's perſon, thought it requiſite and adviſeable to do the ſame by his brothers. This he effected with won-

wonderful addreſs. The firſt that fell into his hands was *Dara* who was afterwards poyſon'd. And the reſt were ſoon made uncapable of giving him any further diſturbance. Theſe difficulties overcome, he was proclaim'd *great Mogul* in 1660 and his poſterity ſtill enjoy that title.

Their dominions extend eaſtward, beyond the *Ganges*, and are bounded by the ocean to the South, *Macran* and *Candahar* to the Weſt, and *Tartary* to the North. *Agra* and *Delly* are the chief cities of this empire, and both lay claim to the name and rank of capital.

It may be ſtrongly preſum'd, if not ſafely affirm'd, that the great *Mogul*'s dominions are the richeſt in the world. For, not only ſeveral of the *European* nations, but moſt of the *Aſiatic* carry gold and ſilver thither, for which they receive nothing in return, but the natural or artificial produce of that country. So that it may be compar'd to a gulph or whirl-pool, into which all the mony of the univerſe is thrown, and from whence none returns.

This Country is well peopled, eſpecially near the great rivers. It is very fruitful, furniſhing great plenty of rice, millet, lemons, oranges, dates, cocoas, ſilk and cotton. But, the great ſource of its wealth is the diamond mines in the kingdom of *Golgonda*; a treaſure of ineſtimable value! The rivers *Ganges* and *Indus* run thro' all that country from North to South. The water of the *Ganges* is extremely light; but beſides this natural quality, the *Indians* believe it indued with another, much more ſingular. They think it has an inherent ſanctity, which, at certain times, may be acquir'd by bathing therein. Upon this account, you may ſometimes ſee four or five thouſand *Indians* devoutly waſhing themſelves in this river, into which, at their departure, they throw gold and ſilver.

As riches are the *Mogul*'s chief preheminence, ſo he is very careful to make a ſhow of them, by all thoſe outward marks of pomp and magnificence that attend unbounded wealth, and in this reſpect there is no other court in the univerſe that can vie with his in luſtre. His chief reſidence, is at *Agra*, ſo large a city (ſay ſome travellers) that one of our jockeys, upon a new-market courſer, cou'd hardly ride round it in a day. But this muſt be underſtood with the uſual reſtrictions; no doubt, when they writ this, they look'd thro' the magnifying ſide of the glaſs: Now, to judge right, what have we to do, but to turn the teleſcope, and look thro' the other end?

There are in *Agra* fifteen large market places, in the principal whereof oppoſite to the imperial palace, are planted 60 huge canons, which indeed, on account of their monſtrous ſize, (like our beef-eaters) are rather for oddneſs and curioſity's ſake than uſe. The palace is very large, of a noble ſtructure; and upon the walls, which encloſe it, are noble porticos and pleaſant terraſs-walks.

The treaſury is a fine building, which has a tower or ſteeple cover'd with plates of gold, and eight apartments fill'd with precious ſtones, pearls, gold and ſilver.

Next to the treaſury is another palace, the roof whereof is alſo cover'd with plates of gold, This is the *Haram*, wherein are confin'd the ladies reſerv'd for the *Moguls* amours, ſometimes to the number of twelve hundred; much in the ſame manner, as a prince, here in *Europe*, who perhaps never croſſes a ſaddle, may notwithſtanding, have an equal number of horſes in his ſtuds.

Theſe poor women, cloyſter'd like nuns, and ſo narrowly watch'd, that they cannot entertain the leaſt hopes of elopement, lead a moſt melancholy life, being allow'd only ſuch dull ſports and diverſions, as are conſiſtent with the humour, pride, and

and jealouſy of their barbarous keeper. Theſe are only a more noble ſort of bull and bear-beating, or the cruel encounters of lyons, elephants, and ſuch like creatures, which are let looſe in a large ſquare appropriated to this purpoſe.

The firſt entrance into the *Mogul*'s apartments is ſurrounded with ſilver rails. The two great courts of the palace are cover'd with pavilions of crimſon velvet embroider'd with gold, and ſupported by pillars thirty five or forty foot high. There are many curious things related concerning the grand feſtival or *Mogul*'s birth day, at which they weigh him, and if he weighs more than the year before, they make great rejoicings. Upon ſuch occaſions as theſe, he ſeats himſelf on his richeſt throne, the lords and ladies congratulate him, and make him preſents. Theſe are follow'd by the governors of provinces and towns, and it is ſaid, that upon ſuch a day, he receives in diamonds, rubies, pearls, emeralds, gold and ſilver ſtuffs, elephants, camels, and horſes, to the value of above three millions ſterling.

Great preparations are made againſt this day. Seven ſtately thrones are fitted up for the emperor; the firſt, adorn'd with diamonds; the ſecond, with rubies; the third, with emeralds, and the reſt with all manner of precious ſtones. The great throne erected in the firſt court is about ſix foot long and four foot wide. The ſupporters are enamel'd with gold. The rich ſtuff, wherewith the canopy is made, is quite hidden under a heap of briliants, and a fringe of the largeſt pearls runs round it. Over the canopy is a peacock, whoſe ſtarry tail is ſet with ſaphirs and other ſtones of divers colours, the body of enamel'd gold is adorn'd with jewels; on its breaſt is a large ruby, whence hangs a pearl, in ſhape and bigneſs, like a pear, weighing above 50 carats. From the throne hangs a ſcymetar, a battle-ax, a ſhield, a

bow and a quiver fill'd with arrows, the whole enrich'd with precious ſtones. Round the twelve pillars, that ſupport the canopy, are diſpos'd, in wreaths and feſtoons, ſeveral rows of pearls. Overagainſt the throne is a bored jewel, from whence hangs the famous diamond reported to be the biggeſt in the world and to weigh 279 carats $\frac{1}{16}$. On both ſides the thrones (which was begun by *Timur-bec* or *Tamerlane* and finiſh'd by *Chah-Jehan*, and is reckon'd to be worth ſixteen million) are fixt umbrellas of crimſon velvet, embroider'd with gold and fringed with large round pearls, the ſticks whereof are cover'd with diamonds. Whilſt the king is on the throne, on both ſides of it, but at ſome diſtance, are rang'd thirty horſes richly capariſon'd, the bridles emboſs'd with diamonds, and jewels hanging from their necks, each horſe held by an equerry ſumptuouſly habited. The king's elephants, with embroider'd houſings, and link'd in golden chains, are brought by pairs, before the throne, to pay their obeiſance to the emperor. As ſoon as he has diſmiſs'd his elephants, he goes into the *Haram*. During five days, this ceremony continues. On the third, the king is weigh'd in large ſcales of maſſive gold. In the ſcale, oppoſite to that in which he ſits, are thrown firſt jewels, and then fruits. After this, he is ſtrew'd with gold and precious ſtones; the curtain falls, and the pageantry ends.

N° 13. *Saturday, January* 28, 1737-8.

——— *Ardeſcunt ignibus undæ.*

OVID.

AMONG the ſeveral cauſes, made uſe of by the ſupreme being, either to bleſs or puniſh mankind, fire may, I preſume, be reckon'd one of the chief. As the ſun, whoſe genial heat cheriſhes and adorns nature, may be look'd upon as the beſt emblem of the univerſal benevolence of our great creator, ſo, many ſubterraneous and other fires may be rank'd among the inſtruments of his divine wrath. This is too well known to be inſiſted on: Every body has heard of *Etna*, *Veſuvius*, and other Volcanos, whoſe bowels conceal fires, that have ſo often rent the ſurface of the earth, and ſpread terrour and deſolation all round. But few wou'd imagine, that the deep itſelf is a receptacle of flames, and that from the very bottom of the ſea, have been felt and ſeen the dreadful effects of the burning element. This, as wonderful as it may appear, all thoſe will find to be true, who will be at the trouble of reading the following abſtract, faithfully tranſlated from a letter written by an ocular witneſs.

'SANTORINO is one of the moſt ſouthern 'iſlands of the *Archipelago*, about 30 leagues 'diſtant from *Candia*, the ancient *Crete* ſo cele-

'brated by the poets. Its circumference is about '45 miles. The ſoil, whoſe chief production is 'barley, is very dry. The iſland is pretty well 'peopled and there are in it, beſides ſeveral 'ſmaller, five large villages.

'In the year 1707 the 23d of *May*, was ſeen 'from *Santorino*, about break of day, a new 'iſland rais'd above the ſurface of the water, at 'about a league's diſtance from *Santorino*. The '18th of the ſame month, they twice heard (or 'rather felt) at *Santorino* ſomething like an earth-'quake. This was not much heeded at that 'time, but it has ſince given room to think that 'this was the very inſtant, in which the new 'iſland began to be looſen'd from the bottom of 'the ſea. However, the cliffs or eminences of 'this new born iſland were firſt perceiv'd by ma-'riners, who, not being able to diſtinguiſh ex-'actly what it was, imagin'd it might be ſome 'wreck brought thither, by the ſea, in the night-'time. Poſſeſs'd by this thought, and in hopes 'of being the firſt who ſhou'd reap ſome benefit 'from it, they made the beſt of their way to-'wards it, but, what was not their ſurpriſe, 'when, inſtead of a floating wreck, they found 'craggy rocks and ſolid earth? Amaz'd and 'frighten'd, they haſtened back again, telling, 'every body they met, what they had ſeen. 'This ſtrange piece of news affected the minds 'of thoſe that heard it, in a different manner, 'according to their different way of thinking: 'ſome were ſtruck with conſternation, others 'moved by curioſity; The new iſland was the 'ſubject of every body's diſcourſe, and engroſs'd 'all their time and attention. At laſt, ſome of 'them, bolder than the reſt, reſolv'd to get as 'nigh as they could to it, the better to make 'their obſervations. They were a great while 'going backwards and forwards, and turning

'round

'round it, carefully examining ſo uncommon a 'production. Then, apprehending there was no 'danger, they drew nearer and landed. Their 'curioſity led them from rock to rock, where 'they found, almoſt every where, a kind of white 'ſtone, that wou'd cut like bread, and was ſo 'like it, in ſhape, colour and conſiſtency, that 'till it was taſted, it cou'd be taken for nothing 'but true wheaten bread. What pleas'd them 'moſt, as being a very ſcarce commodity at '*Santorino*, was great quantities of fine oyſters, 'that ſtuck to the rocks, whereof, after they had 'made a plentiful break-faſt, they pick'd up 'as many as they cou'd. Whilſt they were 'employing themſelves this way, on a ſudden, 'the rocks were ſeen to move, and they felt 'the earth tremble under their feet; they ſoon 'abandon'd their intended cargo, and in great 'confuſion threw themſelves into their boats. This 'motion was owing to the growth of the iſland, 'which viſibly increas'd every moment, ſo as to 'gain in a very few days 20 foot in height, and 'about twice as many in length.

'The motion, whereby the new iſland became 'daily higher and broader, being unequal, the 'iſland itſelf did not increaſe equally on all 'ſides; and it often happen'd, that it ſunk and 'diminiſh'd in one place, whilſt it was rais'd and 'extended in another. One day eſpecially, a 'rock, very remarkable both for its make and 'ſize, having ſprung out of the ſea, at about 40 'paces diſtance from the iſland, I made it my 'buſineſs, during four days, particularly to ob-'ſerve it, after which, it ſunk into the ſea and 'was no more ſeen: but ſeveral others, that had 'alternately appear'd and diſappear'd, remain'd, 'at laſt, fixt and unmov'd. In the mean while, 'the colour of the ſurrounding ſea alter'd very 'much; it was at firſt, of a light green; then it

'grew

'grew ruddy, at laſt, it turn'd to a pale yellow. 'The whole was accompany'd with a very great 'ſtench.

'The 16th of *July*, for the firſt time ſmoak 'was ſeen to iſſue, not indeed from the iſland 'itſelf, but from a ridge or chain of black 'rocks, which ſuddenly roſe up, about 60 paces 'from it, from a place in the ſea, where, till 'then, had been found no bottom. Thus, for 'ſome time there were two ſeparate iſlands, 'whereof one was call'd the white, and the other 'the black iſland, by reaſon of their different 'colour, but they were not long without reunit-'ing, altho' in ſuch a manner, that theſe black 'rocks came to be the center of the whole iſland. 'The ſmoak iſſuing from them was very thick 'and of a whitiſh colour, like that from a lime-'kiln. It was carry'd by the wind upon one of 'the habitations ſituated at the extremity of the 'gulph, where it every where penetrated without 'doing much harm, the ſmell not being then 'very offenſive.

'In the night, between the 19th and 20th of '*July*, were ſeen, in the midſt of the ſmoak, 'tongues of fire, which caus'd no ſmall uneaſineſs 'to the inhabitants of *Santorino*, eſpecially thoſe 'of the caſtle of *Scaro*, the moſt expos'd of all, 'both by its proximity and natural ſituation; be-'ing not above half a league diſtant from the 'burning iſland, and built upon the brink of a 'very narrow promontory, which hangs over a 'precipice, bounded by the ſea. Now, they had 'only (as they themſelves intimated) this dread-'ful alternative to expect, either to be blown up 'into the air, by reaſon of the veins of combuſti-'ble matter, which, as they thought, communi-'cated, under the ſea, from the new iſland to 'theirs, and wou'd ſoon take fire; or elſe, to be 'hurl'd into the ſea, with their houſes, by ſome

'ſudden

'ſudden earth-quake, which they hourly expect-
'ed. Upon this, they were reſolving to depart
'from the caſtle, and to retire, with their effects,
'to ſome other iſland, or at leaſt, to change their
'habitation, till ſuch time as they had ſeen what
'this wou'd end in, and indeed ſeveral took to
'this laſt reſolution, and it was with a good deal
'of pains and trouble that the reſt were perſuad-
'ed to ſtay. No leſs intimidated were the *Turks*,
'who were then at *Santorino*, in order to collect
'the tax, yearly paid by this iſland to the *Sultan*.
'Struck with amazement at the ſight of fires
'riſing from ſo deep a ſea, (for near this new
'iſland it is 60 fathoms in depth) they exhorted
'every one to pray, and to ſend children about
'the ſtreets, crying out *Kyrie eleïſon*, Lord! have
'mercy upon us. For (ſaid they) theſe little chil-
'dren, having never yet offended God, are much
'fitter than thoſe come to man's eſtate to ap-
'peaſe his wrath. Nevertheleſs, the fire was not
'very conſiderable, iſſuing only out of a very
'ſmall vent in the black iſland, and not being diſ-
'cernible in the day-time.

'As for the white iſland, whence came neither
'fire nor ſmoak, it increas'd very faſt, tho' not
'ſo much by a great deal as the other. Large
'rocks were daily ſeen to ſpring up, which ad-
'ded ſometimes to its length, ſometimes to its
'breadth, and that ſo viſibly, that this increaſe,
'from one moment to another, might be very
'eaſily perceiv'd. One day, theſe rocks touch'd
'the iſland, another, they were at ſome diſtance
'from it, inſomuch, that in leſs than a month, we
'reckon'd up four black iſlands, which afterwards
'reunited ſo as to form but one.

'It was alſo obſerv'd, that the ſmoak was very
'much increas'd, and there being no wind at that
'time, it aſcended ſo high, as to be ſeen from
'*Candia*, *Naxos*, and other diſtant iſlands. Du-

'ring

'ring the night, this ſmoak look'd like a column 'of fire 15 or 20 foot high, and the ſea was co-'ver'd with a kind of ruddy ſcurf in ſome places, 'and with yellow froth in others; and ſo infec-'tious a ſmell was ſpread all over *Santorino*, that 'they were oblig'd to burn perfumes and kindle 'fires through all the ſtreets. This ſtench laſted 'a day and a half, and then was blown off by a 'freſh ſouth-weſt gale. But, after this evil came 'a worſe, for the ſtrength of the wind drove this 'hot vapour upon moſt of the vineyards in *Santo-'rino*, whereby the grapes, which were juſt ripe, 'were all parch'd up in one night. This too was 'obſerv'd, that wherever reach'd this vapour, it 'ſullied both plate and copper, and caus'd violent 'head-achs, attended with reachings. About the 'ſame time, the white iſland, preſs'd down by its 'own weight, ſunk at once ten foot.

'The 31ſt of *July*, the ſea was perceiv'd to caſt 'ſmoak and to bubble near the black iſland, in 'two ſeveral places, in both which, the water 'form'd a perfect circle, and look'd like oyl, when 'ſet upon the fire. This laſted for above a month, 'during which was found upon the beach, abun-'dance of dead fiſh.

'The following night, we heard a kind of deaf 'hollow noiſe, like the diſtant report of ſeveral 'cannons, and immediately after, ſprung up, from 'the midſt of the furnace, two long ſquibs, or laun-'ces of fire, which roſe to a very great heigth, and 'then were preſently extinguiſh'd in the air.

'The 1ſt of *Auguſt*, the ſame hollow ſound was 'at ſeveral times again heard; it was follow'd by 'a ſmoak, not white as heretofore, but of a blueiſh 'black, and which, notwithſtanding a pretty freſh 'northern gale, ſprung up, in the ſhape of a column 'to a prodigious heigth. Had it been night, I ve-'rily believe this long column of ſmoak wou'd, like 'that abovemention'd, have appear'd all in fire.

'The

'The 7th of *Auguſt*, the noiſe was no longer 'hollow; it reſembled rather that, which wou'd be 'occaſion'd by ſeveral huge fragments of ſtone, fall-'ing all together into a deep well; it was probably 'caus'd by ſome large rocks, which at firſt clung to 'the iſland, but were afterwards looſen'd from it 'and plung'd down again by their own weight. 'What help'd to confirm me in this thought is, that 'whilſt the noiſe laſted, I ſaw the extremity of the 'iſland in a perpetual motion, the rocks ſeemingly 'moving to and fro, diſappearing and then appear-'ing a new. However it be; to this noiſe, after it 'had laſted ſeveral days, ſucceeded a much ſtronger, 'and which was ſo much like thunder, that it cou'd 'hardly be diſtinguiſh'd from three or four real 'claps, which happen'd much about the ſame time.

'The 21ſt of *Auguſt*, the fire and ſmoak were 'conſiderably diminiſh'd, inſomuch that at Night, it 'was hardly perceivable; but the 22d at ſun-riſing, 'it broke out again with more fury than ever. The 'vapour was red and very thick, and the heat caus'd 'thereby ſo intenſe, that all round the iſland, the 'ſea ſmoak'd and bubbled up in a ſurpriſing man-'ner. At night, I had the curioſity to obſerve, 'theſe ſeveral fires thro' a teleſcope. Beſides the 'large furnace burning upon the higheſt part of the 'iſland, I reckon'd up ſixty ſmaller, that emitted a 'clear lively flame, and in all likelihood there might 'be as many more on the other ſide of the iſland 'which I cou'd not ſee.

'The 23d of *Auguſt*, in the morning, I found 'the iſland was much higher than the day before, 'and that its breadth was increas'd by a chain of 'rocks ſprung out, in the night-time, nigh 50 foot 'above water. Beſides, the ſea was once more co-'ver'd with the reddiſh ſcurf already mention'd, 'from which exhal'd an unſufferable ill ſmell. The '5th of *September*, the fire burſt out at the extre-'mity of the black iſland, on that ſide towards

'*Theraſia*, which ſome authors aſſert to have been 'formerly joyn'd to *Santorino*, from which it was 'divided by an earthquake, that let in the ſea, and 'of one iſland made two. From this vent, the fire 'iſſued for ſeveral days, during which, there came 'but very little out of the large furnace.

'Had not a conſtant uneaſineſs, at ſo melancholy 'a ſituation, taken away all reliſh for diverſion, we 'ſaw at this time what would certainly have 'afforded a great deal, *viz.* three large ſtreams of 'fire, that roſe three ſeveral times to a vaſt height, 'and form'd three moſt beautiful ſky-rockets of a 'glowing lively red. The ſcene chang'd the follow-'ing night. After ſeveral claps of the ſubterraneous 'thunder, at once appear'd a thouſand as it were 'glittering ſheaves of fire, ſcattering light on all 'ſides, which afterwards coming to break and diſ-'perſe, fell, in the ſhape of ſtars, like a ſhower, 'upon the iſland, which appear'd all in a blaze, and 'offer'd, to the ſpectator's aſtoniſh'd ſight, the moſt 'horrid, but, at the ſame time, the moſt beautiful 'illumination imaginable. To theſe natural fire-'works, ſucceeded a different phenomenon, which, 'by the inhabitants of *Santorino*, whoſe minds 'were already depreſs'd by fear, was taken for a 'very bad omen. This was a kind of meteor, 'which for a long while remain'd unmov'd over the 'caſtle of *Scaro*, and then loſt itſelf in the clouds.

'The ninth of *September*, the two iſlands, both 'the white and the black, perpetually increaſing, 'came to unite and join into one. And after this 'junction, the weſtern extremity of the iſland daily 'increas'd in length.

'Of all theſe different openings, of which I have 'already ſpoken, there were but four left, that 'emitted flames, which came out with great impe-'tuoſity, and the roaring within, was at ſome times, 'not unlike the ſound of the biggeſt pipe of an 'organ, at others, you wou'd have thought you 'heard the howling of wild beaſts. 'The

'The twelfth of *September*, the ſubterraneous 'noiſe augmented very much, and altho' it had four 'openings to diſcharge itſelf, yet had it never been 'ſo dreadful nor ſo frequent as that day and the fol- 'lowing. The redoubled ſtrokes, like the general 'volley of the great guns of a numerous army, were 'repeated ten or twelve times in four and twenty 'hours, and a moment after each clap, iſſued out 'from the large furnace red hot ſtones of an enor- 'mous bulk, which were caſt at a vaſt diſtance into 'the ſea.

'Theſe claps were always follow'd by a thick 'ſmoak, which coming to diſperſe, ſcatter'd every 'where clouds of aſhes, whereof ſome were carry'd 'as far as *Aneſi*, an iſland 25 miles diſtant from '*Santorino*. I had the curioſity to take up ſome 'of theſe aſhes; upon black they appear'd whitiſh, 'and upon white almoſt black. As they were 'much of the ſame figure and grain with fine gun- 'powder, I threw ſome of them into the fire: But 'they only made a kind of crackling, without any 'flame.

'The eighteenth of *September*, an earthquake 'was felt at *Santorino*, that did no great damage, 'but the new iſland receiv'd thereby a conſiderable 'increaſe, as well as the fire and ſmoak, which, 'that day and the night following, burſt out thro' 'ſeveral new crevaſſes. Hitherto, I had not ſeen ſo 'many fires together, nor heard ſuch terrible claps, 'the violence whereof was ſo great, that you wou'd 'have thought every houſe in *Scaro* muſt have been 'ſhaken to the ground. From the midſt of a dark 'and thick ſmoak, which look'd like a mountain, 'was heard the craſhing of an infinite number of 'huge ſtones, which form'd in the air the ſame 'roaring noiſe as large cannon-balls, and afterwards 'rebounded back again upon the iſland and into the 'ſea. A ſmall neighbouring iſland was ſeveral 'times cover'd with theſe glowing hot ſtones, which

'made it look all in a blaze, inſomuch that the firſt 'time we ſaw it, we imagin'd, from the proximity 'of the two iſlands, that the fire had paſs'd, under 'the ſea, from one to the other; but we were 'miſtaken. All this proceeded from thoſe ſtones 'being ſkim'd over with ſulphur, and that being 'conſum'd, they did ceaſe to burn, in leſs than half 'an hour.

'The twenty-firſt of *September*, the ſmall adja-'cent iſland being alſo in flames, after one of thoſe 'terrible claps already mention'd, very great light-'nings enſued, which in a moment flew from one 'end of the horizon to the other. At the ſame 'inſtant, the new iſland was ſo terribly ſhaken, that 'one half of the large furnace came tumbling down; 'and burning rocks of a prodigious ſize were driven 'at the diſtance of above two miles. We all thought 'that this laſt and violent effort had drain'd and 'exhauſted the mine. We were confirm'd in this 'opinion by four days of tranquility and calmneſs, 'during which there was not the leaſt appearance 'of fire or ſmoak.

'The twenty-fifth of *September*, the fire broke 'out again with more fury than ever. Among the 'almoſt continual claps, which were ſo violent, that 'two perſons, ſtanding cloſe together, cou'd hardly 'hear one another ſpeak, there was one ſo dreadful 'and terrible, that the churches were preſently 'fill'd with crouds of people, expecting each mo-'ment would be their laſt; the doors and gates of 'houſes flew open, and the huge rock, upon which 'ſtood the caſtle of *Scaro*, ſtagger'd to and fro.

'In order to avoid uſeleſs repetitions, I ſhall 'obſerve once for all that this continued in the ſame 'manner during the months of *October*, *November*, 'and *December* 1707; and *January* 1708, the 'large furnace, without one day's intermiſſion, 'emitting ſtones and flames, at leaſt, once or twice 'but oftener, five or ſix times a day.

'The

'The tenth of *February*, 1708 about eight 'o'Clock in the morning, was felt, at *Santorino*, a 'pretty ſtrong earthquake. The night before, there 'had been one of much leſs force, which made us 'judge, from the experience of what was paſs'd, 'that more havock and deſtruction was preparing in 'the bowels of this volcano. We were not long 'in expectation of it. Fire, flames, ſmoak, redou-'bled claps like thunder, in ſhort, nothing but 'horror and confuſion, was ſeen or heard. Rocks 'of an amazing bulk, which till now had only 'appear'd juſt above the water, now tower'd to the 'ſkies, and the ſea rag'd to ſuch an exceſs, that 'altho' we were pretty well accuſtom'd to it, there 'were none amongſt us, but what it threw into 'the utmoſt conſternation.

'The ſubterraneous bellowings were no longer 'heard by intervals only; night and day they never 'ceas'd. In leſs than a quarter of an hour, there 'were ſix or ſeven eruptions from the large furnace. 'The horrour of the repeated claps, the quantity of 'huge ſtones which flew every way, the houſes tot-'tering to their very foundation, and the fire, which 'now appear'd in open day, ſurpaſs'd whatever we 'had ſeen before.

'The fifteenth of *April* was remarkable for the 'number and fury of theſe repeated ſtrokes and 'noiſes: Inſomuch that for a long time our eyes 'diſcovering nothing but flames, or fiery ſmoak, 'and fragments of rocks thrown up into the air, we 'imagin'd that all was at an end, and that the iſland 'itſelf had been blown up, and was totally deſtroy'd 'by theſe violent exploſions; but we were far from 'being right in our gueſs. The cauſe of this vio-'lent uproar, was the fall of half the circumference 'of the large furnace, which however quickly grew 'as high as it was before, being repair'd by the vaſt 'quantities of aſhes and large ſtones it had thrown 'up, and that were gather'd in great heaps round it.

'From

'From that day to the twenty-third of *May*, the 'anniverſary of the birth of the new iſland, every 'thing continued much upon the ſame footing. 'What appear'd to me moſt worthy notice was, that 'the iſland ſtill continued to grow in height, but 'had ceas'd increaſing in breadth. The wide 'mouth or large furnace was rear'd very high, and 'the melted matter, which I take to have been ſul-'phur or vitriol, coming to cake, whereby this huge 'fabric was knit and join'd together, form'd, over 'the opening, a kind of cruſt, with a broad ſlope or 'ſhelving.

'Afterwards, every thing by degrees grew more 'calm, the fire and ſmoak ſubſided, the ſubterra-'neous thunders grew leſs terrible. This in all 'probability was owing to the want of any more 'combuſtible matter which had ſerv'd as fewel to 'keep up the fire, as likewiſe to the ſeveral openings 'being widen'd.

'The fifteenth of *July*, I put in execution a 'deſign I had long ſince form'd, of taking a cloſe 'view of the iſland. It was a very fine day, the 'ſea was calm, and the fires were very moderate. I 'engaged in this party *Monſignor Francis Criſpo*, 'the Latin biſhop, and ſome other eccleſiaſtics, who 'had the ſame curioſity as myſelf. In order to this, 'we provided a galley-boat well calk'd, with double 'oakum beaten in between the planks. As we had 'agreed to land, if poſſible, in the iſland, we made 'directly towards it, on that ſide where the ſea did 'not bubble, but where it ſmoak'd very much. We 'were hardly got into this ſmoak, when we all felt 'a cloſe ſweltry heat, which did almoſt ſuffocate us. 'We put our hands in the water, and found it 'ſcalding hot; and yet we were half a mile diſtant 'from our intended landing place.

'There not being the leaſt probability we cou'd 'go on any farther on this ſide, we made towards 'that point of the iſland which was the fartheſt

'diſtant

'diſtant from the large furnace, on which ſide the 'growing iſland had all along increas'd in length. 'The fires, which ſtill continued to burn, and the 'boyling up of the ſea, oblig'd us to take a great 'compaſs, notwithſtanding which, we felt the air 'about us exceſſively hot. After we had ſail'd 'round it, we at laſt went a-ſhore in the iſland cloſe 'adjoyning to it, whence we had time enough to 'examine (without danger) what was the true 'length of the new iſland, and particularly the ſide 'which we cou'd not diſcover from *Scaro*. The 'iſland was of an oblong figure or ſhape, its greateſt 'heigth, at that time, might be about 200 foot, its 'greateſt breadth, a little above a mile, and its cir-'cumference five miles. After we had ſpent an 'hour, or more, in ſurveying every thing with care, 'we cou'd not forbear attempting once more to land, 'and we choſe that place, which, as has been ſaid, 'had been long call'd the white iſland. Several 'months were paſt without any alteration in that 'place, wherein, beſides, had never been ſeen, either 'fire or ſmoak. So we ſet all hands to work and 'row'd that way. We ſounded; found 95 fathom; 'but for want of rope cou'd go no deeper. Whilſt 'we were conſulting, whether we ſhould proceed or 'go back, the large furnace diſcharg'd itſelf with its 'uſual fury, and to complete our misfortune, a freſh 'gale blew directly into our faces a large parcel of 'aſhes and ſmoak; and happy were we! that 'nothing elſe came along with it. It wou'd have 'made any body laugh to ſee the pickle we were in, 'and how like devils this ſhower of aſhes made us 'look. We made the beſt of our way home again, 'and we cou'd not do it more opportunely; for we 'were hardly a mile and a half at ſea, when the 'eruption began a freſh, and threw into the very 'place, we had but juſt left, great numbers of 'burning ſtones. Beſides, when we were got to '*Santorino*, our ſailors made us obſerve that the

'exceſſive

'exceſſive heat of the water had melted almoſt all 'the pitch from our boat, which began to take 'water on all ſides.

'To conclude; this new iſland has continued 'burning ever ſince, but has made much leſs havock 'and noiſe than heretofore.

N° 14. *Saturday, February* 4, 1737-8.

Ah! nimiùm faciles qui triſtia crimina cædis
Flumineâ tolli poſſe putatis aquâ.

OVID.

THE worſhip, due to the ſupreme being, having been uſurp'd by fictitious deities, religion ſoon deviated from its original purity. From their fears or deſires men form'd to themſelves different notions of the god-head; according as they were led by an extravagant fear, or a wild deſire, and it was properly theſe two paſſions, to which incenſe and ſacrifices were offer'd. But the idea of providence cou'd not be intirely loſt, nor effaced from the mind of man. There ſtill remain'd a ſtrong perſuaſion, that the gods were attentive to the actions of men, that they were offended at their crimes, and that both public and private calamities were the dreadful effects of their avenging wrath. Thus, every thing that ſeem'd to happen againſt the order of nature, as prodigies, monſters, celeſtial ſigns or meteors, was look'd upon, as ſo many tokens

tokens of the anger of the gods, and in order to avoid the fatal conſequences of it, ſuch religious ceremonies were invented, as was thought, cou'd appeaſe and mitigate it. It is upon this foundation, or elſe from ſome knowledge of the moſaic law, that the heathens built their doctrine of *Expiations* or *Atonements*, an account whereof ſhall be the ſubject of this week's eſſay.

Strictly ſpeaking, crimes alone were the proper object of expiation. Nevertheleſs, ſacrifices of atonement were made uſe of upon ſundry occaſions, and there is hardly any part, either of public or private life, but what has been ſubject to it. Upon taking the command of an army, or celebrating public games, at all feſtivals, aſſemblies, and meetings, the firſt rites obſerv'd were always expiatory ſacrifices. If we deſcend into the particulars of private life, it will be found that the ancients were ſcrupulouſly nice in the performance of their purifications, not only upon account of the ſmalleſt faults, but of whatever a ridiculous ſuperſtition made them look upon as ſiniſter omens. In this ſenſe of the word, by *Expiation* and other ſynonimous terms, [a] muſt be underſtood the performance of ſome religious act, in order to remove or avert ſome misfortune threatned, as was thought, by an evil conſtellation, or by the meeting an ominous creature; but the moſt common ſignification of this word is an *atonement for crimes*.

Of all ſorts of *Expiations*, thoſe us'd in caſes of murder were the moſt ſolemn, and when the criminal was a man of diſtinction, even kings did not think it below their regal dignity to perform this ceremony themſelves. Accordingly, in *Apollodorus*, *Copreus*, who had kill'd *Iphitus*, is expiated by *Euryſtheus* king of *Mycenæ*. In *He-*

(a) *luſtrare, purgare, februare.*

rodotus, *Adraſtus* goes to *Cræſus* king of *Lydia*, in order to be expiated. In the ſame manner, *Hercules*, *Theſeus*, and ſeveral of the ancient heroes, voluntarily underwent the ceremonies of *Expiation*.

For an exact and particular account of it we are indebted to *Apollodorus* [b]. *Jaſon* the chief of the warriors who went to the conqueſt of the golden fleece, after he had, by the aſſiſtance of *Medea*, made himſelf maſter of this rich prize, convey'd away both his miſtreſs and this precious booty. They were purſued by *Abſyrtus* brother to the princeſs. The fear of falling into his hands made her take the cruel reſolution of aſſaſſinating him. *Abſyrtus*, ſooth'd by her flattering promiſes, went to meet her in a ſmall neighbouring iſland, where, not being upon his guard, he was kill'd by *Jaſon*, who had hid himſelf for that purpoſe. This horrid fact committed, *Jaſon* and *Medea* ſet ſail for the iſland of *Æa*, in order to be expiated by *Circe*, who was *Medea*'s aunt, and reign'd in that iſland. *Circe* not knowing her niece, receiv'd, as ſtrangers, in a very obliging manner, both her and *Jaſon*; who approach'd her with a down-caſt look, and, according to the cuſtom of ſuppliants, without uttering one word, plac'd themſelves within the hearth. There, *Jaſon* ſtuck into the ground the ſword with which he had kill'd *Medea*'s brother. By this action, their ſilence, their humble poſture, and the place they had choſen, where they lay groveling in the aſhes, *Circe* ſoon diſcover'd that they were fugitives and guilty of murder. Wherefore, ſhe immediately prepar'd all things neceſſary for the *Expiation* of their crime. She firſt order'd a ſucking pig to be brought, and, with the blood iſſuing from it, rubb'd the hands of *Jaſon* and

(b) Argonaut. l. 4.

Medea.

Medea. Libations or wine offerings were afterwards pour'd out in honour of *Jupiter the atoner.* After which, having caus'd the remains of the ſacrifice to be thrown away, ſhe burnt, upon the altar, cakes made of flower, ſalt, and water; each of which actions was accompany'd by proper prayers, intended to appeaſe the wrath of the cruel *Eumenides*, or goddeſſes of vengeance. As ſoon as the ceremony was ended, *Circe* deſir'd her gueſts for whom a ſplendid entertainment was prepar'd, to ſit down upon thrones richly adorn'd. It wou'd be quite needleſs, and foreign to our preſent purpoſe, to relate, that when once *Circe* was appris'd that *Medea* was her niece, ſhe wou'd ſuffer her no longer to abide in her palace, but did not dare to proceed any farther againſt her, becauſe *Medea* had implored her protection as a ſuppliant; a character eſteem'd ſacred among the ancients.

Such were the ceremonies of *Expiation for murder.* But it had not always been attended with ſo much trouble and ſo many inconveniences, for in the moſt ancient times, it was ſufficient barely to waſh one's ſelf in a running water. This is alluded to by *Ovid*, in the two lines I have affix'd as a motto to this paper. The poet, after having ſpoken of ſeveral heroes who had been purify'd in this manner, condemns this practice as an abuſe, and exclaims againſt the credulity of thoſe, who fondly believ'd that river-water cou'd waſh off the ſtains of the blood ſpilt by murderers.

The *Romans* made uſe of an *Expiation* peculiar to themſelves, the particulars whereof may be found in *Dyoniſius Halicarnaſſæus*, where he ſpeaks of the atonement made by *Horatius* for the murder of his ſiſter, committed juſt after his victory. This *Expiation* by waſhing was generally

(d) *Pauſanias.*

obſerved after a battle: *Achilles*, if we may credit *Athenæus*, [c] purify'd himſelf after the ſame manner at *Miletus*, when he had kill'd *Stombelus*, king of the *Leleges*. *Æneas*, immediately after the ſacking of *Troy*, did not dare to touch with his hands his houſhold gods, until he had purify'd and cleans'd himſelf with water.

But beſides theſe particular *Expiations* for murder, there was a more general one for all ſorts of faults committed. Such was the initiation into the myſteries of *Eleuſis*, a place very near *Athens*. The candidates to be initiated, profeſs'd a total regeneration. They were, for the future, to lead a quiet, innocent, and holy life; and they were ſooth'd and flatter'd with the pleaſing hope, that the firſt places in the *Elyſian* fields, which were feign'd to be the manſions of the bleſſed, wou'd certainly be theirs. But they believ'd that, on the contrary, thoſe, who were ſo unhappy as to be depriv'd of the knowledge of theſe myſteries, were doom'd to eternal darkneſs. Therefore, it was but juſt and reaſonable to be at ſome expence and trouble in order to obtain thoſe bleſſings, they were in hopes of enjoying by means of this initiation. Beſides, nothing ſeem'd more natural than to begin a new life by the atonement of paſt offences. So, it is no wonder, if this was the firſt ſtep to be taken in this ceremony. Firſt, a prieſt, who whilſt he acquitted himſelf of this function had the title of *Ydranos*, ſacrificed, to *Jupiter*, a ſow big with young. Her ſkin was afterwards extended upon the ground for the perſon that was to be purify'd to ſit upon. This ceremony was preceded by a ſtrict faſt, and follow'd by prayers, and by ablutions of ſalt-water, after which, the candidate was crown'd with a chaplet of flowers. When he had

(c) II. 6.

under-

undergone theſe ſeveral trials, he might then aſpire to the title of *Myſta*, a name given to thoſe who were initiated in theſe myſteries.

The atonements and other ceremonies, made uſe of before leave was given to conſult the oracle of *Trophonius*, were ſtill more tedious and fatigueing than thoſe abovemention'd; for men are apt to take more pains to ſatisfy their curioſity than their devotion. *Trophonius* and *Agamedes* [d] were brothers, ſons of *Erginus*, king of the *Orchomenians*. They had ſo great a genius for architecture, that moſt princes not only made them very welcome and receiv'd 'em with pleaſure but ſtrove who ſhou'd have them at his court. They built temples and palaces for ſeveral of them. In that, which they erected for *Hyrieus*, they contriv'd to adjuſt a ſtone, in ſuch a manner, that tho' it appear'd part of the building and to ſtick as cloſe as any of the reſt, yet, it cou'd be taken out with eaſe. By this means, they went in by night, and robb'd the treaſure of *Hyrieus*, whoſe riches were very conſiderable. He, ſeeing that notwithſtanding his locks and ſeals were intire and unbroken, yet, his gold diminiſh'd daily, bethought himſelf of laying ſnares about his coffers and cheſts, wherein *Agamedes* having the misfortune to be caught, *Trophonius* cut off his head, leſt had he been taken alive, the tortures of the rack ſhou'd have forced him to reveal that his brother was his accomplice. *Trophonius* immediately diſappearing, a rumour was ſoon ſpread abroad, that on the ſpot, he had been ſwallow'd up by the earth; and the ſuperſtitious folly of thoſe times went ſo far that this infamous robber was rank'd among heroes and demigods, and his pretended oracle was conſulted with abundance of formalities equally troubleſome and myſterious.

Firſt of all, ſome days were to be ſpent in a chapel, conſecrated to the good genius, where ſeveral

ſorts

ſorts of purifications were made uſe of. Faſting was preſcrib'd, as well as abſtinence from wine, and from waſhing in warm water, inſtead whereof, was recommended frequent bathing in the river *Hercyna*. Many were the ſacrifices offer'd to *Trophonius* and his ſons, to *Apollo*, to *Jupiter*, and to *Juno*. In the mean while, the *Haruſpices* carefully inſpected the entrails of the victims, in order to diſcover whether the god was appeas'd. After this, the ſame night that the oracle was to be conſulted, a ram was ſacrificed to *Agamedes*, and a good omen was to be taken from this victim, before that one cou'd proceed any farther. Then, he, who came to conſult the oracle, was conducted, by the prieſts, to the neighbouring river, where, after his body had been rubb'd with oyl and waſh'd by a couple of youths, he was, by them, led to the two ſprings of this river, which were but a ſmall diſtance aſunder. There they made him drink, from the firſt, a draught of *Lethe* or oblivion, that he might forget whatever he had ſeen or heard before, and from the ſecond, a draught of *Mnemoſyne* or memory, that he might remember what he came to learn, and was juſt going to be inform'd of. After all this, they put him on a linnen garment, his head was bound with a wreath or fillet, and in this equipage he was introduced into *Trophonius* his cave.

The next ſort of *Expiations* were thoſe made uſe of to purify whole towns or cities. There was generally a fixt day appointed for this ſolemnity: At *Rome*, it was kept on the 5th of *February*: The ſacrifice offer'd upon this occaſion was, according to *Servius*, call'd *Amberbale*, or *Amburbium*, and the victims *Amburbiales*. Beſides this feſtival, there was another celebrated every five years by the *Cenſors*, as I have already obſerv'd in a former eſſay. This was call'd *luſtratio*, and from hence, the word *luſtrum* comes to ſignify a ſpace of five years. Theſe ſo ſolemn atonements took place alſo upon ſome very

very extraordinary occaſions, as when the *Tarquins* were expell'd and the conſular authority ſucceeded that of the kings [e]. But ſometimes, it was not the whole city that was atoned for, but ſome particular place in it, which was thought to be defil'd. The *Expiations* of croſs-ways were call'd *compitalia*.

The laſt ſort of *Expiation* was that of armies [f] who were purify'd both before and after the fight. *Homer* gives an account, in the firſt book of the *Iliad*, of the ſolemn manner in which *Agamemnon* expiated his army, after that *Apollo* had afflicted it with the plague; and as this is the beſt and moſt exact deſcription of this kind now extant, I am apt to think, the *Engliſh* reader will not be diſpleas'd, if he finds it here, according to Mr. *Pope*'s beautiful tranſlation of it.

The hoſt to expiate, next the king prepares,
With pure luſtrations, and with ſolemn prayers,
Waſh'd by the briny wave, the pious train
Are cleans'd, and caſt th'ablutions in the main.
Along the ſhore whole hecatombs were laid,
And bulls and goats to Phœbus' altars paid.
The ſable fumes in curling ſpires ariſe,
And waft their grateful odours to the ſkies.

The number of theſe public *Expiations* is by far exceeded by thoſe, in uſe, in private families, which it wou'd be endleſs to enumerate. Nuptials, funerals, in a word, every circumſtance in life of any moment, was preceded by ſome act of atonement. Whatever was reputed of ill omen, as the meeting of a weaſel, a raven, or a hare, an unlook'd for ſhower, an unexpected ſtorm, a bad dream, were all to be expiated by proper atonements. But, indeed, in ſuch caſes as theſe, ſacrifices were not

(e) *Dyon. Halic.* (f) Armiluſtrium.

always

always abſolutely neceſſary; to waſh, or ſhift cloaths, was often times ſufficent. Salt water was always preferr'd to that of rivers, and running ſtreams to ſtanding water. But beſides water; ſalt, barley, laurel, and even fire was made uſe of, thro' which were to paſs thoſe who underwent the *Expiation*.

N° 15. *Saturday, February* 11, 1737-8.

Templa manent hodie vaſtis innixa columnis.

ALL civilis'd nations, that ever I read or heard of, have built *Temples* in honour of what they look'd upon as the ſupreme agent, or at leaſt, of thoſe real and imaginary beings, that were the objects of their worſhip. I muſt only except the *Perſians*; for we learn from *Tully*, that they thought it diſreſpectful, for weak mortal men, to pretend to receive the gods within their walls, to confine the immortals to ſo narrow a ſpace, and preſcribe bounds to immenſity itſelf. Tho' it wou'd not be very difficult to confute this opinion, I ſhall, at preſent, content myſelf with taking notice, that the *Jews*, *God's choſen people*, built a temple by his ſpecial command; and that the ſame practice was obſerv'd by the moſt polite and knowing of all the ancients, the *Greeks* and *Romans*.

Theſe

Theſe laſt were remarkably religious in this particular. Upon any good ſucceſs, they ſeldom fail'd of erecting temples, the name whereof owes its original to the *Augural Temple*, or enclos'd ſpace, where the *Augurs* obſerv'd the *flight of Birds*. By the ſame name were call'd all places whatever, mark'd or traced out by the *Augurs*, altho' not intended for religious worſhip. The firſt men, living in foreſts, had no other temples than conſecrated woods, generally planted upon a riſing ground; and as they met there, only in the night-time, they were illuminated by a great quantity of lights, whence they had the name of *Luci*, from *lux*, which ſignifies *light*.

No ſooner did men form themſelves into ſocieties and build cities; but they likewiſe erected temples. Some are of opinion that the firſt, which were ſeen in *Italy*, were founded by *Janus*, in whoſe name the *Romans* began their ſacrifices: Others attribute the invention of them to *Faunus*, whence the word *Fanum* a ſynonimous term for temple. But theſe muſt, at firſt, have been only conſecrated woods; the *Romans*, according to *Varro*, having been 170 years without temples properly ſo call'd.

As for the temple of *Janus*, built by *Romulus*, the firſt king of *Rome*, it muſt be conſider'd, rather as a monument, than as a place of worſhip, and in all likelihood, it was rais'd with a deſign to perpetuate the memory of the friendſhip, union, and ſtrict alliance between the *Romans* and *Sabines*, whereof the ſtatue of this god with two faces [a] was the emblem, as well as of peace and war.

The formalities, requiſite for conſecrating a temple to the gods, were, the authority and ſanction of the laws, the obſervation of auſpices, and the ceremony of the conſecration itſelf.

(a) *Janus bifrons.*

A general or magiſtrate, who had vow'd to build a temple, cou'd not do it, without the conſent of the republic. After it had been reſolv'd in the ſenate, a law or ordinance of the commonalty [b] was ſtill requiſite to make it effectual. Under the emperors, upon theſe occaſions, their bare will was inſtead of law.

The law once paſs'd, the *Augurs* were conſulted. They were call'd together by an order of the commiſſioners [c] appointed for the conduct of the work. The *Augurs* began by the choice of the ground, in doing of which, ſpecial regard was had to the nature and offices of the god, to whom the temple was to be conſecrated. *Vitruvius* obſerves, that the temples of *Jupiter*, *Juno*, and *Minerva* were to be ſeated upon hills, becauſe they were eſteem'd, the tutelar deities of *Rome*, that had a particular concern for the Intereſts of the empire. *Mercury*, *Iſis*, and *Serapis*, as gods of trade, had their temples near the markets. Without the city, were thoſe of *Mars*, *Bellona*, *Vulcan*, and *Venus*; becauſe they were look'd upon as troubleſome and dangerous deities. Tho' indeed it muſt be own'd that theſe rules were not always exactly follow'd.

After this, the *Augurs* inſpected the flights of birds, which was call'd *taking the auſpices*, and if theſe were favourable, they drew the outlines of the temple [d]. The firſt ſtone was laid with much form and abundance of ceremony. The *Veſtals*, accompanied by children of both ſexes whoſe fathers and mothers were ſtill living, ſprinkled the place with three different ſorts of water; it was afterwards purified by the ſacrifice of a white bull and cow. The chief pontiff, or high-prieſt, [e] invok'd the god, to whom the temple was intended to be rais'd.

(b) *Plebiſcitum.* (c) *Duumviri.* (d) *Effari, ſeu. ſiſtere templum.* (e) *Pontifex maximus.*

Then

Then was laid the firſt ſtone, upon which were engraven the names of the then reigning magiſtrate and pontiff, and at the ſame time were thrown into the foundation gold and ſilver medals, and pieces of metal in the oar. All this was uſher'd in and follow'd by the repeated acclamations of the whole people.

The temple being built, the dedication enſued, which at firſt was the office of the chief magiſtrate. But afterwards, ſeveral feuds and contentions being occaſion'd thereby, recourſe was had to the ſovereign power of the commonalty: at laſt, it was left to the diſpoſal of the ſenate, but not without the intervention of the tribunes of the people. This laſted as long as the common-wealth; but the emperors, aſſuming to themſelves the power of the tribunes, became ſole maſters and judges of this as well as of many other things.

The day of the dedication of the temple was look'd upon as holy, and celebrated as a ſolemn feſtival, by extraordinary rejoycings: the altars were cover'd with victims; the temple was adorn'd with wreaths and garlands; hymns were ſung to the ſound of flutes. The magiſtrate, who perform'd the ceremony, laid his hand upon the peers or door-poſts, calling, with a loud voice, upon the pontiff, or high-prieſt, to aſſiſt him in this ſacred function, by pronouncing, before him, the form preſcrib'd for theſe occaſions, which he repeated after the prieſt, word for word; and in this, they were ſo ſcrupulous, that they imagin'd the forgetting, or pronouncing wrong, a ſingle word or ſyllable, was ſufficient to marr the whole myſtery. It was for this reaſon, that the chief pontiff *Metellus*, being troubled with an impediment in his ſpeech, was forced to practiſe ſeveral months, in order to pronounce rightly the word *opiferæ*. All that aſſiſted at this ceremony were oblig'd to be cloath'd in white, and every thing was excluded from it, that had the leaſt

ſhew of grief or mourning. On which occaſion it is reported of *Horatius Pulvillus*, that whilſt he was dedicating the capitol, ſome of his enemies came ſuddenly upon him, with a falſe account of his ſon's death; not doubting but that he wou'd give ſome indications of grief and ſorrow that wou'd have violated the ſanctity of the rite, which muſt have been perform'd over again by ſome other perſon. But this great man very notably diſappointed his enemies. and receiv'd the meſſage without any viſible emotion. Then, went on very orderly in his function till he had gone thro' with it.

A temple cou'd not be conſecrated without a ſtatue of the god, which was placed in the midſt of it. Beneath it was an altar, upon which the firſt offering was made, conſiſting of pulſe boil'd in water, and a kind of thick milk, both which were afterwards diſtributed among the workmen.

The names of the magiſtrates were written or engraven upon the frontiſpiece of the temples they had dedicated. Thoſe, who rebuilt them, when they put up new inſcriptions never eras'd thoſe of the firſt founders.

As the gods were ſuppos'd to be of different ages, inclinations, and employments, the builder had an eye to this, when he laid out his plan, and vary'd his ornaments accordingly. We have no leſs than *Vitruvius*'s authority for it, who tells us, that the temples of *Jupiter* the thunderer, of *Cœlus* or heaven, of the ſun, the moon, and the god *Fidius*, were to be uncover'd at the top, and that the ſame ſuitableneſs and agreement was obſerv'd in the ſeveral orders of architecture. The temples of *Minerva*, *Mars*, and *Hercules*, were of the *Doric* order, the majeſty whereof was moſt becoming the valour and manly virtues of theſe deities. For thoſe of *Venus*, *Flora*, *Proſerpine*, and the water-nymphs, the *Corinthian* order was made uſe of; the exquiſite beauty of the foliages, volutes, and flowers, where-

with

with it is adorn'd, beſt ſympathiſing, if I may uſe the expreſſion, with the ſoft female charms of thoſe ever-blooming goddeſſes. The *Ionic* order, in a juſt medium between the gravity of the *Doric* and the gayety of the *Corinthian*, was employ'd in thoſe of *Juno*, *Diana*, and *Bacchus*. The *Tuſcan* was appropriated to the grotto's of the rural deities. One preſently knew, at ſight of the architecture of a temple, who was the god worſhipp'd in it.

The manner, in which moſt of them were built, had ſomething in it very ſolemn and awful. At the firſt entrance, you met with a ſpacious court or area, which was ſurrounded with cover'd galleries, or portico's, ſupported by columns; the perſpective was bounded by the temple itſelf. It was moſtly of a ſquare form, and generally divided into four principal parts, *viz.* a porch or veſtibule in front; another oppoſite to it; two wings form'd on each ſide by ſeveral ranks of columns; and the body of the temple, or if you will, the ſanctuary [f]. The porch and wings were not in all temples alike. They had no windows in the body of the temple; but the light came in at the doors and from the top.

Altho' that part of the temple, which we have call'd the ſanctuary, was more particularly deſign'd for religious worſhip, yet notwithſtanding, civil affairs were frequently tranſacted in it, after the ſacrifices were ended, and a veil was drawn over the ſtatues and altars. It cou'd not be dedicated to two ſeveral deities, unleſs they were inſeparable, ſuch as *Caſtor* and *Pollux*, but different gods might have each his ſanctuary or chapel under the ſame roof, and in this caſe the Temple was call'd *delubrum*.

Here was ſeen the ſtatue of the god, ſometimes in a niche, ſometimes in a tabernacle, call'd *ædicula*. It was purpoſely turn'd towards the weſt, that thoſe

(f) Cella vatic.

that

that came to worſhip it, might have their face to the eaſt. Beſides ſeveral ſmall ones, there were commonly three great altars in the Temple. The moſt conſpicuous was juſt beneath the ſtatue. It was raiſed very high and for this reaſon call'd *altare* [g]. Upon this they burnt incenſe and perfumes, and made libations or wine offerings. The ſecond, upon which the victims were ſacrificed, was before the Temple-gate; theſe two were fixt; the third cou'd be mov'd at pleaſure, upon which were placed the ſeveral offerings and ſacred veſſels. The altars of the celeſtial deities or heavenly gods were higher than the reſt, thoſe of the terreſtrial, or gods of the earth, ſomething lower, and thoſe of the infernal or gods of hell ſunk into the ground.

There was always a great number of tables and all ſorts of utenſils and ſacred veſſels in the Temples. The offerings and preſents hung from the vault nam'd *tholus*. To the pillars were faſtened the ſpoils of the enemy, the votive pictures, and the arms of thoſe gladiators, who were paſt ſervice. The ſacred beds, called *pulvinaria*, upon which, on ſolemn days, repoſed the images of the gods made of ivory, magnificently dreſſed, and bigger than the life, with ſeveral rich preſents and precious offerings; in ſhort, whatever ſerved for the uſe of the Temple, was kept in a kind of treaſury called *Donarium*. It was here alſo that very often, eſpecially in time of trouble, private men depoſited their money and moſt valuable effects.

Beſides, theſe Temples were adorn'd with the ſtatues of great men and illuſtrious perſonages, with their pictures, in *baſſo-relievo*, curiouſly emboſs'd upon a kind of eſcutcheon or ſhield [h], and with paintings, repreſenting their atchievements either in war or in peace, their nobleſt actions and moſt cele-

(g) *from* altus *high*. (h) *Clypei votivi.*

brated

brated victories. Gold, bronze, marble, and porphyry were ſo profuſely laviſh'd in theſe ſumptuous buildings, that they might well be look'd upon, as the ſtrongeſt proofs of the grandeur and magnificence of ancient *Rome*.

Nº 16. *Saturday, February* 18, 1737-8

——— *Deſerta perago.*

VIRGIL.

AS the proſpect of groves, fields and meadows, interſpers'd with riſing hilloc's, murmuring brooks, and purling ſtreams, not only pleaſes the eye of the beholder, but chears the heart, and diffuſes o'er the mind that ſedate undiſturbed gladneſs, which *Milton* calls *vernal delight*, ſo, on the other ſide, a wide extended plain without either buſh or ſhrub, a ſandy deſart, or a barren wilderneſs lay claim to our admiration and wonder, and cauſe, if I may uſe the expreſſion, a pleaſing kind of aſtoniſhment. For this reaſon, I have thought that a ſhort account of ſome of theſe vaſt uncultivated tracts of land wou'd not be diſagreeable to the generality of my readers. And whereas ſeveral of theſe deſarts have nothing worth notice but their great extent, it wou'd be a tedious and endleſs piece of work to pretend to give a regular hiſtory of them all: it will be ſufficient for our preſent purpoſe to mention thoſe which are moſt remarkable.

Such

Such are, for example, ſeveral arid and ſandy plains of *Africa* beyond mount *Atlas*, which are call'd the deſarts of *Barbary* and many others, which are diſpers'd over that diſmal dreary part of the world. At ſight of them, one wou'd be apt to imagine, that the heavens have pour'd upon them a rain of fire, or that they have been overwhelm'd with a deluge of flames. Here, every thing appears dry and parch'd up; Here, never fall cooling dews nor refreſhing rains; Here, no beaten path, no human footſteps or winding cauſeway directs the wandring and bewilder'd traveller; but, in the ſame manner as upon the open ſea, he can have no other guide, than the ſtars or compaſs: and he is expos'd in theſe deſarts to ſtorms and tempeſts no leſs perilous than thoſe of that boyſterous element. For, when the winds blow, they raiſe the ſand, and carry it up to a great height into the air; from whence deſcending in the moſt dreadful of ſhowers, it overwhelms and buries alive all that are ſo unhappy as to be expos'd to it.

But,

——— *Quid non mortalia pectora cogis*
Auri ſacra fames?

What tyranny does not the luſt of gain exerciſe over human kind? As horrid, as dangerous as is this wilderneſs, it cannot deter the greedy merchants, who, thro' theſe wild pathleſs regions, convey ſalt and ſeveral other neceſſaries to places beyond them, which afford ſome ſhelter, have a few inhabitants, and where the ſoil is not quite ſo barren. Theſe men are forced to furniſh themſelves with proviſion for the whole journey, even with water itſelf, without which they wou'd be in great danger of periſhing with thirſt, there being no ſprings in the whole country, except a few poor ſcanty wells of brackiſh water, and thoſe ſeveral journeys aſunder. It is indeed pretty well known, at what time of the year

theſe

theſe dangerous winds begin to blow, for they generally return at a certain ſeaſon, but not ſo conſtantly, as to be a ſecurity againſt miſtakes, as has been fatally experienc'd by ſeveral *caravans* (for by this name are call'd companies of theſe merchants travelling together) that have been as it were interr'd under theſe mountains of ſand, which are tranſported by the wind from one place to another. The ſight of theſe arid deſarts made the *Romans* and *Carthaginians* believe, that whatever regions lay beyond mount *Atlas* were not worth the conquering; that the ground was quite burnt up, ſo as not to be able to bear or produce the leaſt vegetable. But the ſeveral diſcoveries made ſince their time, have convinced the world of the contrary. For in the inſide, as it were, of *Africa*, in thoſe parts chiefly more remote from the ſea, there are places, where the ſoil is very fruitful, where the graſs is cover'd with manna, and every plant and ſhrub with honey, not to mention ſeveral large rivers which refreſh the air, help the productions of nature, contribute very much to the growth and goodneſs of all the fruits of the earth, and are a great addition to the beauty and pleaſantneſs of the country. As for the uncultivated plains of that part of *Africa*, call'd *Bildulgerid*, they are not ſo barren as thoſe we have been deſcribing, for they bear great plenty of palm trees and dates.

There are ſome; who, in order to account for theſe vaſt quantities of ſand, ſuppoſe that in theſe countries were formerly to be ſeen large tracts of mountains, which, little by little, during a ſucceſſion of ſeveral centuries, are crumbled away, ſo as to be reduced, at laſt, to the ſmalleſt powder or duſt; much in the ſame manner as we ſee ſome ſort of ſtone turn to ſand upon being broken with a hammer.

Others are of opinion that the ocean formerly divided *Africa* into two parts, and that the free

paſſage of the water coming at laſt to be ſtopt up by ſlime or otherwiſe, the ſandy bottom remain'd. For this, they have the authority of *Plato*, and according to it, *Samſon* a french author of no ſmall repute, in his ancient geography, has a map, wherein the ſea divides *Africa* and makes two large iſlands of it. To ſupport this opinion, 'tis well known that the red ſea has long ſince been obſerv'd gradually to decreaſe; inſomuch that at preſent there is hardly a navigable channel left in the middle: from whence it may be reaſonably expected that in length of time it will be intirely dried up, and leave its empty bed a vaſt plain of ſand, like thoſe of which we have been ſpeaking; whereby *Africa* will be joyn'd to *Arabia Felix*, and of conſequence, to *Aſia*. But God alone knows whether either of theſe two opinions is founded upon truth. This indeed we are ſure of, as well from ancient hiſtory as obſervations of our own times, that the ſurface of the earth has undergone great alterations; the land in ſome parts gaining upon the ſea, in others the ſea incroaching upon the land. It is no leſs true that mountains, as has already been ſaid, crumble away and are reduced to duſt. This indeed affords ground enough to conjecture, but not poſitively to aſſert, that to one or other of the abovemention'd cauſes is to be aſcrib'd the production of theſe ſtrange ſandy deſarts.

One of the moſt remarkable, both for its extent and ſingularity, is that between *Tibet* and *China*, call'd the deſart of *Xamo*, which reaches for ſome hundreds of leagues, from the mountains of *Indoſtan* and *Tibet*, to the inmoſt parts of *Tartary*, in the ſhape of a wreath or fillet, ſeveral leagues broad. This prodigious ſlip of ſand is in a climate much more temperate than that of *Africa*, being frequently water'd with rains. How to account for it I know not, for it is not eaſy to conceive that the ſea cou'd ever have penetrated ſo far as this deſart does

does in our maps, that is, as a very long and narrow channel. Beſides, there are not to be ſeen in that place the leaſt marks or footſteps of mountains.

But to continue. In the coldeſt place, not only in *Lapland*, but alſo throughout *Sweeden*, a country very plentifully water'd by a great number of fine lakes, are to be found deſarts no leſs dangerous than thoſe of *Africa*. For the winds, which conſtantly blow in them, carry the ſand up into the air which when it falls, covers the holes or pits that are full of ſnow, hides all manner of path or tracks, whereby travellers loſe their way, and often meet with very bad accidents, but more particularly ſportſmen, to whom, as they run over hill and dale, thro' woods and foreſts, it has happen'd, that imagining they trod upon firm ground, of a ſudden, it has ſunk under them, ſo that they have been ſmother'd in a quick ſand, or ſtifled to death under a heap of ſnow.

Near the *Caſpian* ſea, all along the coaſt, from *Aſtracan* to *Tarkj*, are deſarts of a very great length, notwithſtanding the neighbourhood of the ſea, and that a great number of rivers very full of fiſh, run thro' theſe wild places. But this will not ſurpriſe thoſe, who are inform'd that the water of theſe rivers is brackiſh, unhealthy and very diſagreeable to drink, and that the land hereabouts, being too much impregnated with ſalt, is not very fruitful. Inſomuch that when the *Czar* of *Muſcovy* undertook in 1723 to wage war againſt ſeveral nations ſituate upon the boundaries of theſe deſarts, his land forces were follow'd by a coaſting fleet loaded with all manner of proviſions and ammunition which kept cloſe to the ſhore.

I remember to have read in a relation of *Chili*, written in *Spaniſh*, that the vaſt tract of land, between the mountains of *Peru* and *Brazil*, (which cannot be ſurvey'd even very ſuperficially in leſs than three months) altho' it abounds in all manner of

plants and plenty of game, yet is but very thinly peopled, and may deſervedly be look'd upon as a kind of wilderneſs; but this muſt not be attributed to the badneſs of the climate, but to the want of policy and induſtry in the inhabitants, who, for the moſt part, wander from place to place, in ſearch of paſture for their cattle, fiſh and wild-fowl for themſelves and their families. And indeed, but a few centuries ſince, the whole continent of *America* might have been look'd upon as a huge uncultivated foreſt, inhabited by ſavages ſcarce to be rank'd among rational creatures. But the *Europeans*, who have ſettled colonies there, have already, in a great meaſure better'd the place, cut down the woods, till'd and manur'd the land, built towns and cities, eſtabliſh'd manufactures, ſettled correſpondencies abroad, and, in ſhort, made a general alteration and chang'd the whole face of things. Happy wou'd it be for the inhabitants of thoſe diſtants regions, if the knowledge of morality and true religion had been propagated among them, with as much induſtry as the arts of traffic and lucre; if their minds had been improv'd as well as their commerce, and they had been inſtructed in the practice of virtue, as well as in the myſteries of trade and husbandry! But it is to be hoped, that in the new ſettlement at *Georgia*, ſupported by his preſent majeſty, encourag'd by a britiſh legiſlature, and conducted by a gentleman of known wiſdom and integrity, former advantages will be improv'd, former errors rectify'd, and former miſtakes avoided. But to digreſs a little further, we may obſerve that were it not for the care and induſtry of men, in checking the luxuriance of nature, the earth wou'd ſoon be over-run with weeds, brambles and briars, and overgrown with woods, in ſhort it wou'd be nothing but a large foreſt fit only to harbour and ſhelter wild beaſts and other ſavage creatures. Beſides, the very air is improv'd by

the

the cultivating of the earth, witneſs the lake of *Averno* in *Italy*, from which whilſt it was ſurrounded with thick gloomy woods, aroſe poiſonous vapours. This we learn from the *Latin* poet *Silius Italicus*, * who takes notice that theſe vapours, which were very noxious and hurtful in *Hannibal*'s time, were quite diſpers'd at the time when he wrote his poem; becauſe *Agrippa*, who liv'd between *Hannibal* and *Silius*, had cut down the woods that enclos'd the lake, and hinder'd theſe pernicious ſteams from being diſſipated; which were immediately ſcatter'd as ſoon as the winds and freſh air were let in among them.

An inſtance much to the ſame purpoſe is that of ſeveral parts of *North-America*, where, through vaſt tracts of ground, nothing but woods were to be ſeen, which render'd thoſe parts exceſſively cold; but ſince they have been cultivated, the air (and this, I preſume, muſt be owing to exhalations from the earth) is grown mild and tempera e as that of *England*, or rather as that of the northern part of *France*.

There are foreſts of an immenſe extent in thoſe parts of *Muſcovy*, known by the name of *Siberia* and *Samoieda*. Of the *Hereinian* foreſt which in ancient times cover'd almoſt all *Germany*, and has been very famous in hiſtory; there are at preſent but few remains left, in what is call'd the *Ardennes*, and the *Black Foreſt*. The foreſts of the *Czeremiſſes* (which ſignifies *inhabitants of the woods*) are of a vaſt extent and prodigious length.

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* *Stagna inter celebrem nunc mitia monſtrat* Avernum,
Tum triſti nemore atque umbris nigrantibus horrens,
Et formidatus volucri, lethale vomebat
Suffuſo virus cœlo, Stygiâque per urbes
Religione ſacer, ſævum retinebat honorem.

il. Ital. L. XII.

There

There are many others in *Africa* and *Aſia*, but as they have nothing very remarkable and follow the general order of nature in this kind of productions, I ſhall not undertake to enumerate them here; that being a thing which, in my mind, wou'd be rather tireſome than pleaſing. I ſhall conclude this eſſay, with a tranſlation, by a very good hand, of a paſſage in *Silius Italicus*, in the beginning whereof are the verſes alluding to the matter of fact above mention'd, and quoted at the bottom of the page from that poet. The whole paſſage, which gives a general map of the great bay of *Naples*, may be look'd upon, by ſome, as foreign to the purpoſe, but there is ſomething in the following deſcription ſo pittoreſque and beautiful, that I do not doubt, I ſhall gratify thereby, rather than diſoblige, the beſt part of my readers.

'*Averno* next he ſhow'd his wond'ring gueſt,
'*Averno* now with milder virtues bleſs'd;
'Black with ſurrounding foreſts then it ſtood,
'That hung above, and darken'd all the flood:
'Clouds of unwholeſome vapours, rais'd on high
'The flutt'ring bird entangled in the ſky,
'Whilſt all around the gloomy proſpect ſpread
'An awful horror, and religious dread.
'Hence to the borders of the marſh they go,
'That mingles with the baleful ſtreams below,
'And ſometimes with a mighty yawn, 'tis ſaid,
'Opens a diſmal paſſage to the dead.
'The dark *Cimmerian grotto* then he paints
'Deſcribing all its old inhabitants,
'That in the deep eternal city dwell'd
'And lay in everlaſting night conceal'd.
'Advancing ſtill, the ſpacious fields he ſhow'd,
'That with the ſmother'd heat of brimſtone glow'd.]

'Through

‘ Through frequent cracks the ſteaming ſulphur broke,]
‘ And cover'd all the blaſted plain with ſmoke:
‘ Impriſon'd fires, in the cloſe dungeons pent
‘ Roar to get looſe and ſtruggle for a vent,
‘ Eating their way, and undermining all,
‘ 'Till with a mighty burſt whole mountains fall.
‘ Here, as 'tis ſaid, the Rebel Giants lye,
‘ And, when to move th'incumbent load they try,
‘ Aſcending vapours on the day prevail,
‘ The Sun looks ſickly, and the ſkies grows pale.
‘ Next to the diſtant iſle his ſight he turns;
‘ That o'er the thunderſtruck *Typhæus* burns:
‘ Enrag'd, his wide extended jaws expire
‘ In angry whirl-winds, blaſphemies and fires,
‘ Threatning, if looſen'd from his dire abodes,
‘ Again to challenge *Jove*, and fight the gods.
‘ On mount *Veſuvio* next he fix'd his eyes,
‘ And ſaw the ſmoaking tops confus'dly riſe;
‘ (A hideous ruin!) that with earth-quakes rent
‘ A ſecond *Ætna* to the view preſent.
‘ *Miſeno*'s Cape and *Bauli* laſt he view'd
‘ That on the ſea's extreameſt borders ſtood.

N° 17. *Saturday, February* 25, 1737-8.

——— Foribus domus alta ſuperbis
Manè ſalutantum totis vomit ædibus undam.

VIRGIL.

MEN, being all deriv'd from the ſame original ſtock, were at firſt intirely equal, or at leaſt, knew no difference, but what nature taught them, ſuch as that of father, ſon, and brother. But afterwards, their reciprocal wants gave birth to civil ſociety, and this, to title, place, and diſtinction. In abſolute governments, primitive equality was ſoon totally deſtroy'd; but in thoſe of a mixt kind, notwithſtanding the neceſſary ſuperiority of thoſe, to whoſe care the executive power was committed, yet, the diſtribution of this power, being generally in the hands of the bulk of the people, occaſion'd an appearance of equality, and thereby an intercourſe of mutual civilities and complaiſance. This is very viſible at elections. The tradeſman, who, ſome months before, bow'd down to the ground and made the moſt ſubmiſſive application, that he might work for *his honour*, or get his bill paid, is now, in his turn, cajol'd and addreſs'd; the haughty 'ſquire appears in the form of an humble petitioner, and mylord himſelf becomes

comes ſuitor for a vote, and allows intereſt to his creditors.

But this ebb and flow of courtſhip was ſtill more remarkable in ancient *Rome*, where, on one ſide, places of the higheſt truſt and greateſt importance were at the diſpoſal of the commonalty, and on the other, each commoner, taken ſingly, generally depended, for his quiet, ſecurity, and advancement, upon one of the nobles, whom he had choſen for his *patron*, and whoſe *client* he declar'd himſelf to be.

Theſe nobles, who, at the firſt ſettling of the common-wealth, were diſtinguiſh'd from the reſt of the people, chiefly by being their protectors, and held their places under no other ties, than thoſe of gratitude and acknowledgement, became, at laſt, by their artifices and dexterity, and by the idleneſs and corruption of thoſe they had to deal with, the imperious maſters of mutinous tho' voluntary ſlaves. Bribes were freely receiv'd and given; *levees* were frequented and came into faſhion; and ſuch abject tokens of homage, as might well be look'd upon as the forerunners of ſervitude and abſolute power, began to be in uſe among the *Romans*.

Every morning, their firſt indiſpenſable duty was to wait upon the ruling men, to whom, wiſhing a good morrow, they kiſs'd their hands in the ſame manner, as before the ſtatues of their gods. They always appear'd at theſe morning ſalutations in full dreſs, that is, in a *toga pura*, or gown of the fineſt white wool. They ſtaid till their patron was pleas'd to ſhew himſelf in the *veſtibulum*, or hall; and after they had been admitted into his preſence, in caſe he went out, they attended him abroad, crowding about him on all ſides, as he walk'd the ſtreets, or in latter times, following his litter on foot. The ſame diſtance was obſerv'd at entertainments. A client, who had the honour

of receiving his patron at his table, always left to him the choice of the other gueſts, and invited them in his patron's name; in ſhort, nothing was omitted, that might teſtify, how much he was indebted to him for ſo great a favour. Theſe, I muſt own, are ſuch diſtinctions, as cou'd only pleaſe vain empty men; but thoſe obſerv'd in their letters, and indeed, their true taſte in this kind of writing, cannot, I think, be too much applauded, and deſerve to be recommended, as patterns and examples worthy of imitation. The epiſtles of *Seneca* and *Pliny* the younger, but more eſpecially, *Tully*'s, are ſtanding proofs of what I aſſert, and may be look'd upon as the beſt models of that true politeneſs and good breeding ſo peculiar to the *Romans*. In reading the letters of theſe great men, one cannot but obſerve with pleaſure, with how much delicacy they addreſs thoſe, whoſe favour and eſteem they coveted; the dexterity, with which they recommend their friends; the happy turns and well choſen expreſſions they make uſe of to aſk their advice or aſſiſtance, to congratulate them upon the good ſucceſs of their undertakings; or condole with them in their misfortunes. But, what I wou'd more particularly ſpeak of, as conducing moſt to my preſent purpoſe, is that noble plainneſs and ſimplicity, ſo remarkable among them, even after the loſs of their liberty, in the beginning and ending of their letters; an agreeable wiſh and a kind farewell were the only compliments they us'd upon theſe occaſions: Which when compar'd with our gothic civilities, our earneſt proteſtations of being the moſt obedient humble ſervants of men, hardly our ſuperiors, and ſometimes of thoſe, we leaſt value, make us look very ridiculous and abſurd. Pompous ſuperſcriptions were unknown to them till the decline of the empire. Turn over every leaf in *Pliny*, and altho' he was a very ceremonious

nious gentleman, and perfectly acquainted with the minuteſt punctilio's of good breeding, yet, you will never find any of his letters directed *To the right honourable the Lord Conſul, the moſt worſhipful the Lord Prætor, the right reverend the Lord Pontiff*, or terms equivalent. The proper, family, and ſurname of the perſon, with that of his dignity annex'd, was thought ſufficient; and *Cæſar*, ſovereign of the *Roman* empire, the greateſt man in the univerſe, wou'd have receiv'd a letter from a private citizen with no other direction, than *To Caius Julius Cæſar perpetual Dictator*. It ſhou'd not be forgotten, in honour to the *Romans*, that they did ſhew the ſame reſpect to age, as to rank and dignity; and that they had ſo great a reverence for their parents, that in their public baths, the uſe whereof was very frequent among them, a ſon never preſum'd to appear, at the ſame time with his father.

But if ſuperiors had ſo great a regard paid them by their inferiors, theſe, as has already been obſerv'd, were, in their turn, honour'd and careſs'd. This happen'd, when any vacancy was to be fill'd up, which was very often; their higheſt offices being annual, that is, held only for a year. Then it was, that no arts were left untry'd by thoſe *Patricians* and *Nobles*, who put up for places and employments; their very ambition render'd them affable, the deſire of being great taught them to be complaiſant, and pride itſelf was forced to put on the appearance of humility.

The *candidates* (for ſo they were call'd) were careful not to overlook the meaneſt citizen. They receiv'd, with all the openneſs and freedom imaginable, thoſe that came to their *levee*; after which, they went about town, attended or followed by their relations, friends, and clients, ſolliciting both nobles and commonalty for their vote and intereſt. Men of the greateſt credit and in

the higheſt places, accompany'd, upon theſe occaſions, the candidate they favour'd the moſt; publickly declaring thereby, how acceptable his advancement wou'd be to them, and in order to recommend him to the choice and election of the people. The candidate himſelf had always, at his elbow, one or two ſervants,* whoſe buſineſs it was to acquaint him with the names of thoſe he met; for the appellations of *Sir*, *Maſter*, and *Mylord*, not being in uſe at *Rome*, not to call a man, by his name, was reckon'd a breach of good manners. By ſuch means as theſe, they not only obtain'd the greateſt dignities, but enjoy'd them with honour and applauſe. Some of the firſt emperors, that they might not ſtartle a people, as yet, not well us'd to the yoke, affected the ſame obſequious and courteous behaviour; eſpecially *Auguſtus*, who refus'd with indignation the title of Lord that had been conferr'd upon him. All citizens were by him admitted without diſtinction at his *levee*, and he was ſo unwilling to be accoſted with any manner of awe or fear, that, one day, ſmiling at an humble ſuppliant, that came trembling to him, he cou'd not help telling him, any one that ſaw him wou'd rather think he was preſenting a piece of money to an elephant, than a petition to his prince.

I have hitherto been ſpeaking of what was obſerv'd among men of different ranks; let us now conſider, what was the behaviour of thoſe who liv'd upon an equal foot. Their general *rendevous* was the *forum*, a large open place, in the midſt of the city, like the *piazza* of St. *Mark* at *Venice*. Here they met and convers'd, both upon public and private affairs; and in the firſt times of the common-wealth, when plainneſs and honeſty

* *Nomenclatores.*

had

had not yet made room for grimace and diſſimulation, it was here, that the old *Romans* gave one another ſincere and hearty marks of their mutual friendſhip. But, in proceſs of time, theſe generous profeſſions, as is uſual among all nations, degenerated into meer outward form and compliment. And yet, being of a lively diſpoſition, and affecting much earneſtneſs and fondneſs, as their countrymen, the preſent *Italians*, do at this day, they were ſo profuſe of their kiſſes and embraces, even to thoſe, with whom they had but a very ſlender acquaintance, that the emperor *Tiberius* thought himſelf oblig'd, to publiſh an edict againſt ſo troubleſome a piece of civility: but this prohibition, in all likelihood, did not laſt long, ſince the poet *Martial*, who flouriſh'd under *Domitian*, that reign'd 44 years after the death of *Tiberius*, complains very much upon this account, of one *Poſthumus*; which is to be ſuppos'd he wou'd not have done, had the edict afforded him any relief. It is not methinks unpleaſant, to reflect upon the odd and uncommon incidents, that a law of this nature wou'd produce among us. An action againſt *Mr. Deputy Roughly* for hugging too cloſely *Sir John Niſy* Knt. and Alderman. Damages exacted of *Andrew Mac-bullet*, a Lieutenant, lately return'd from *Gibraltar*, for aſſaulting, diſordering and ſpoiling the *toupee* of *Alexander Soft*, *Eſqr.* Enſign in the guards, under pretence of ſhewing his great joy, at the ſight of the ſaid *Alexander Soft*, after a ſeven years abſence. An action of aſſault and battery againſt *Bellow Loud*, *Eſqr.* for that he on the twelfth of *September* laſt, between the hours of ſix and ſeven in the afternoon, in the preſence of a room-full of ladies, violently and with both his hands, did ſeize the head of *Frances Modely*, *Spinſter*, and with his lips, during the ſpace of two minutes, did kiſs the

ſaid

ſaid *Frances Modely*, to the great detriment of her reputation and white-waſh.

But to leave this digreſſion, for which I aſk pardon of my readers, and return to the *Romans*, it may be obſerv'd, that they did uſe to ſend preſents to their friends on their birth-day; to ſpend it with them in pleaſure and rejoicings; to pay formal viſits, make entertainments upon weddings and other ſuch ſolemnities, drink to one another, and to abſent friends, and the like.

That regard, which is due to the fair ſex, was not omitted by the *Romans*. Ladies had the right of appearing at feſtivals, and ſolemn occaſions, in a kind of open coach, drawn by mules; and of being carry'd in litters within the city-walls, a privilege, the men, during many ages, were depriv'd of. They had the beſt ſeats aſſign'd them, at all plays, ſhews, games, and other public places; and women, as well as men of quality, were honour'd, after their death, with a funeral oration, or panegyrical diſcourſe, upon their virtues.

N° 18. *Saturday, March* 4, 1737-8.

Hic eſt pampineis viridis VESUVIUS *umbris,*
Preſſerat hic madidos nobilis uva lacus.
Hæc juga quàm Niſæ colles plus Bacchus amavit:
Hoc nuper Satyri monte dedere choros.
Hæc Veneris ſedes, Lacedæmone gratior illi;
Hic locus Herculeo nomine clarus erat.
Cuneta jacent flammis & triſti merſa favillâ:
Nec ſuperi vellent hoc licuiſſe ſibi.

MARTIAL.

AMONG the ſeveral countries, which excite moſt an attentive traveller's curioſity, ſome are chiefly remarkable for the works of nature, others, for thoſe of art. But, there are ſo many of both theſe kinds to be found in *Italy*, that it is very hard to determine, to which of the two one ought to give the preference. On one ſide, painting, ſtatuary, architecture, both ancient and modern, diſplay their beauties: On the other, varieties of pleaſing proſpects; hills cover'd, here, with vineyards, there, with ſnow; amazing falls of water; hot baths; ſulphurous lakes and the like, attract the eye of the beholder, and command all his attention. But in this great variety of phænomena, which wou'd take up too much time to be mention'd here, none

are

are ſo ſurpriſing as the ſeveral *volcano's*, or receptacles of ſubterraneous fires, eſpecially that in the kingdom of *Naples*, and that in the neighbour iſland of *Sicily*: the firſt, enclos'd within mount *Veſuvius*, ſhall be the ſubject of this, the ſecond, within mount *Etna*, of our next eſſay.

It is worth obſerving that there is no account given of Mount *Veſuvius*'s caſting flames, before the reign of the emperor *Titus*; which plainly ſhews that the enclos'd fire had been long gathering ſtrength in the bowels of the earth, as ſeveral others do, without being perceiv'd, or elſe, that it was exhaled by ſome other vent. And indeed, ever ſince this hill has emitted flames, there are few or no fires to be ſeen in the *Æolian* now call'd the *Liparee* iſlands, which heretofore did uſe to burn very fiercely.

It was, as I have ſaid, under the reign of *Titus*, that the fire, which had ſo long lain hid in this mountain, broke out with great vehemence, carrying with it vaſt quantities of ſtones and aſhes, which intirely overwhelm'd and deſtroy'd the two cities *Hervelana* and *Pompea* (the remains whereof by digging pretty deep have been ſince found out and are to be ſeen to this day) and very much damag'd *Naples* itſelf. This ſtrange accident occaſion'd a loſs long ſince deplor'd by the learned world, that of the famous *Pliny*, who being at that time commander of the *Roman* fleet at *Miſeno*, with his uſual curioſity, immediately ſet ſail for the place where the flames appear'd, and order'd his ſhip to be brought as near as poſſible to it, that he might the better conſider ſo new and ſo uncommon a ſight. As he was at that time very much advanced in years, and beſides, troubled with an aſthma, he was ſuddenly ſeiz'd by theſe thick malignant ſulphurous vapours that increas'd his diſtemper and were the cauſe of his death, which happen'd a few days after. Upon

no

no other ground than this, ſome have ventur'd to ſay, that the better to examine every thing, he had made thoſe about him let him down with ropes into the hollow part of the hill, where he had been ſuffocated by the flames and burnt to aſhes. This firſt eruption was, as has been ſeen, very conſiderable; after which the fires ceas'd for a great while, at leaſt, I do not find upon record any other conſiderable eruption till the year 471. But this was ſo violent, that if we may credit common report, the cinders were carried as far as *Conſtantinople*, which prodigy was thought by ſuperſtitious minds to preſage the deſtruction of the Empire, that happen'd immediately after, occaſion'd, as every body knows, by that inundation of *Goths* which ſpread itſelf all over *Europe*.

The third remarkable eruption related by *Baronius* was in 681. He ſays, that ſeveral rivers of brimſtone and bituminous matter iſſued from this fiery lake, and ran into the ſea, the marks whereof are ſtill to be ſeen. There have been ſince ſeveral other eruptions leſs conſiderable, but after a kind of ceſſation of ſome hundred years, they have been again renew'd with more fury than ever in the laſt century: Firſt in 1631, next in 1638, and again in 1690, when there was ſuch violent flames burſt forth, ſuch a prodigious quantity of ſtones, aſhes and ſulphurous matters was thrown out, together with ſuch terrible earthquakes, that the cities of *Naples*, *Benevento*, and ſeveral others, were very nigh being intirely deſtroy'd. Beſides, theſe noxious vapours infected the air, whereby a plague was caus'd, which laſted a great while, and ſpread to ſuch a degree, that the dreadful effects of it were felt in the neighbourhood of *Rome*.

To this ſhort hiſtory of the *Veſuvian* Volcano, I ſhall add a very exact account of it, as it was in the year 1701, when Mr. *Addiſon* ſaw it, and I

ſhall chuſe to give it in that celebrated Author's own words, with which I ſhall conclude this paper.

'THIS mountain ſtands at about ſix *Engliſh* 'miles diſtance from *Naples*, tho' by reaſon of its 'height, it ſeems much nearer to thoſe that ſur-'vey it from the Town. In our way to it we 'paſs'd by what was one of thoſe rivers of burning 'matter, that ran from it in a late eruption. This 'looks at a diſtance like a new plow'd land, but, 'as you come near it, you ſee nothing but a long 'heap of heavy disjointed clods lying one upon 'another. There are innumerable cavities and 'interſtices among the ſeveral pieces, ſo that the 'ſurface is all broken and irregular. Sometimes 'a great fragment ſtands like a rock above the 'reſt, ſometimes the whole heap lies in a kind 'of channel, and in other places has nothing like 'banks to confine it, but riſes four or five foot 'high in the open air, without ſpreading abroad 'on either ſide. This, I think, is a plain de-'monſtration that theſe rivers were not as they 'are uſually repreſented, ſo many ſtreams of run-'ning matter; for how could a liquid, that lay 'hardening by degrees, ſettle in ſuch a furrow'd 'uncompact ſurface? Were the river a confuſion 'of never ſo many different bodies, if they had 'been all actually diſſolv'd, they would at leaſt 'have form'd one continu'd cruſt, as we ſee the '*Scorium* of metals always gathers into a ſolid 'piece, let it be compounded of a thouſand hete-'rogeneous parts. I am apt to think therefore, 'that theſe huge unweildy lumps that now lye 'one upon another, as if thrown together by ac-'cident, remain'd in the melted matter rigid and 'unliquify'd, floating in it like cakes of ice in a 'river; and that, as the fire and ferment gradu-'ally abated, they adjuſted themſelves together

'as

'as well as their irregular figures wou'd permit, 'and by this means fell into ſuch an interrupted 'diſorderly heap, as we now find it. What was 'the melted matter lyes at the bottom out of ſight. 'After having quitted the ſide of this long heap, 'which was once a ſtream of fire, we came to the 'roots of the mountain, and had a very trouble-'ſome march to gain the top of it. It is cover'd 'on all ſides with a kind of burnt earth, very dry, 'and crumbled into powder, as if it had been ar-'tificially ſifted. It is very hot under the feet, 'and mix'd with ſeveral burnt ſtones and cakes of 'cinders, which have been thrown out at different 'times. A man ſinks almoſt a foot in the earth, 'and generally loſes half a ſtep by ſliding back-'wards. When we had climb'd this mountain we 'diſcover'd the top of it to be a wide naked plain, 'ſmoaking with ſulphur in ſeveral places, and 'probably undermin'd with fire, for we concluded 'it to be hollow by the ſound it made under our 'feet. In the midſt of this plain ſtands a high 'hill, in the ſhape of a ſugar loaf, ſo very ſteep 'that there would be no mounting or deſcending 'it, were not it made up of ſuch a looſe crumbled 'earth as I have before deſcribed. The air of this 'place muſt be very much impregnated with 'ſalt-peter, as appears by the ſpecks of it on the 'ſides of the mountain, where one can ſcarce find 'a ſtone that has not the top white with it. After 'we had, with much ado, conquer'd this hill, we 'ſaw in the midſt of it the preſent mouth of *Ve-'ſuvio*, that goes ſhelving down on all ſides 'till 'above a hundred yards deep, as near as we 'could gueſs, and has about three or four hun-'dred in the diameter, for it ſeems a perfect 'round. This vaſt hollow is generally fill'd with 'ſmoak, but, by the advantage of a wind that 'blew for us, we had a very clear and diſtinct 'ſight of it. The ſides appear all over ſtain'd

'with mixtures of white, green, red and yellow, 'and have ſeveral rocks ſtanding out of them that 'look like pure brimſtone. The bottom was 'entirely cover'd, and tho' we look'd very nar-'rowly we could ſee nothing like a hole in it; 'the ſmoak breaking through ſeveral imperceptible cracks in many places. The very middle 'was firm ground, when we ſaw it, as we con-'cluded from the ſtones we flung upon it, and I 'queſtion not but one might then have croſs'd the 'bottom, and have gone up on the other ſide of 'it with very little danger, unleſs from ſome acci-'dental breath of wind. In the late eruptions this 'great hollow was like a vaſt caldron fill'd with 'glowing and melted matter, which as it boil'd 'over in any part, ran down the ſides of the moun-'tain, and made five ſuch rivers as that before-'mention'd. In proportion as the heat ſlacken'd, 'this burning matter muſt have ſubſided within 'the bowels of the mountain, and as it ſunk very 'leiſurely had time to cake together, and form 'the bottom which covers the mouth of that 'dreadful vault that lyes underneath it. The 'next eruption or earthquake will probably break 'in pieces this falſe bottom, and quite change 'the preſent face of things.

'This whole mountain, ſhaped like a ſugar-'loaf, has been made at ſeveral times, by the 'prodigious quantities of earth and cinders, which 'have been flung up out of the mouth that lyes 'in the midſt of them, ſo that it encreaſes in bulk 'at every eruption, the aſhes ſtill falling down 'the ſides of it, like the ſand in an hour-glaſs. A 'gentleman of *Naples* told me, that in his me-'mory it had gain'd twenty foot in thickneſs, and 'I queſtion not but in length of time it will cover 'the whole plain, and make one mountain with 'that on which it now ſtands.

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'In thoſe parts of the ſea that are not far from 'the roots of this mountain, they find ſometimes a 'very fragrant oil, which is ſold dear, and makes 'a rich perfume. The ſurface of the ſea is, for 'a little ſpace cover'd with its bubbles during the 'time that it riſes, which they ſkim off into their 'boats, and afterwards ſet a ſeparating in pots 'and jars. They ſay its ſources never run but in 'a calm warm weather. The agitations of the 'water perhaps hinder them from diſcovering it 'at other times.

N° 19. *Saturday, March* 11, 1737-8.

——— *Horrificis juxtà tonat* ÆTNA *ruinis,*
Interdumque atram prorumpit ad æthera nubem,
Turbine fumantem piceo & candente favillâ:
Attollitque globos flammarum & ſidera lambit:
Interdum ſcopulos avulſaque viſcera montis
Erigit eructans, liquefactaque ſaxa ſubauras
Cum gemitu glomerat, fundoque exæſtuat imo.

VIRGIL.

IF the account I gave in my laſt paper of mount *Veſuvius* has not diſpleas'd my readers, I dare ſay the following eſſay upon mount *Etna* will not prove leſs ſatisfactory.

This mountain is at no great diſtance from *Catana*, a town in *Sicily*, ſituate upon the eaſtern ſhore

ſhore of that iſland; the ſoil and nature whereof has always been reckon'd the fitteſt of any to produce and nouriſh ſubterraneous fires. *Juſtin*, the Latin hiſtorian, a very credible witneſs in this caſe, that liv'd under the reign of *Antoninus Pius*, who ſucceeded *Adrian* in the year 138, expreſſes himſelf thus upon the matter. * "The ſoil [of *Sicily*] "is of a light crumbling nature, and the ground "undermin'd throughout with caverns and great "hollows, that lies open to the winds. Beſides, it "is ſaid, that theſe cavities contain great quantities "of ſulphur, bitumen, and other combuſtible mat-"ter, by reaſon of which, the fire and wind ſtrug-"gling within the bowels of the earth, oftentimes, "and in ſeveral places, throw up, ſometimes flames, "ſometimes vapours, and at others, only ſmoak. "Hence it is, that mount *Etna* ſtill continues to "burn after ſo many centuries; and when thro' the "openings of the cavities the wind blows harder "than ordinary, heaps of ſand and gravel are flung "up into the air.

Mount *Etna* is much higher than *Veſuvio*, having, according to the dimenſions of ſome mathematicians, ten or twelve miles perpendicular height; the lower part of the mountain and ſurrounding vallies are exceedingly fruitful. This they have in common with all thoſe lands which lie in the neighbourhood of volcanos; theſe inward fires, when help'd by the moiſture of frequent rains or the adjoining ſea being productive of the greateſt plenty. For this reaſon, the lower part of the mountain is planted with trees of all ſorts, but towards the middle part, it is quite cover'd with cinders and ſtones, which are continually flung up by the eruption, and mix with the ſnow that falls from the ſummit of the mountain. At the top of this ſummit, is the largeſt

(*) IV. 1.

vent

vent or opening, a vaſt hollow! offering to the eye a frightful precipice, the circumference whereof is about ten or twelve miles, and the diameter about three or four. This opening, decreaſes or increaſes, proportionably to the violence of the eruption. I have even been credibly inform'd that at times it has emitted neither fire nor ſmoak, but has been quite ſtopt up, as Mr. *Addiſon* ſays the mouth of *Veſuvius* was, when he ſaw it. There are in many places in the mountain ſeveral other openings, from which, in the day-time iſſues ſmoak, which, in the night appears as clear and bright as fire. On all ſides are viſible marks of ſtreams of ſulphurous matter, like unto melted metal, and the whole country thereabouts is full of burnt ſtones call'd *Charres* by the inhabitants, which, when the hill burns fiercely, are thrown ſeveral miles from it.

In the moſt ancient hiſtories, mention is made of this fire, but without fixing the date of the firſt eruption; ſo, we may reaſonably conclude it has been burning time out of mind; and yet, thoſe ſtores of combuſtible matter are not exhauſted. In the ſpace of about 3000 years there have been no leſs than thirty conſiderable eruptions.

The firſt (that we have any knowledge of) happen'd at the time of the conqueſt of the golden fleece by the *Greeks*, 1200 years before the birth of Chriſt; the next, when *Æneas* came to *Italy*, a little after the ſiege of *Troy*. There are three more reckon'd from the third *Olympiad* to *Ol.* 83 four very remarkable under the Conſuls; one under *Julius Cæſar*, one under *Caligula* in the year of our Lord 40; and another under *Charlemain* in the year 80. From the year 1160 to 1169 it broke out ſeveral times, and *Sicily* was continually agitated by earth-quakes, which cauſed the death of many thouſand perſons, and the ruin of ſeveral fine cities.

This Volcano began to rage again in the year 1284. From 1329 to 1333 it burnt almoſt continually

nually. It broke out again in 1408 but from 1444 to 1447 it never ceas'd, but blaz'd without interruption, as it did from 1536 to 1537. There was another dreadful eruption in 1633 which laſted till 1639 and was follow'd by that of mount *Veſuvius*, where every thing had been ſtill and quiet for ſome time. After a ſhort reſpite, it broke out more impetuouſly than ever in 1660; but the next eruption in 1669, being extremely remarkable in all its circumſtances, may be look'd upon as one of the moſt memorable events that ever happen'd, and deſerves as much to be recorded as any of thoſe hiſtory has handed down to us. For this reaſon I hope the curious reader will not be diſpleas'd if I give him an exact account of it which I have taken from a very valuable *Italian* manuſcript, the author of which was a gentleman of *Naples*, a very ingenious perſon and a good ſcholar, who was in *Sicily* at the very time, this accident happen'd, himſelf examin'd moſt of the particulars he relates, and had the reſt immediately from thoſe, who were eye-witneſſes to the ſurpriſing and dreadful ſcene he deſcribes.

'EIGHTEEN days before there was any ſuſpicion 'of an eruption, there were felt all over *Sicily*, but 'eſpecially near mount *Ætna*, violent earth-quakes, 'accompany'd with ſtorms and lightnings, whereby 'ſeveral ſtately buildings were levell'd with the 'ground, and the town of *Nicoloſi*, about half 'a-mile diſtant from the mountain, was not only 'quite overthrown, but the ruins of it were ſunk a 'conſiderable depth into the ground. It is worth 'obſerving, that ſeveral perſons, who were at ſea, 'between *Sicily* and *Calabria*, heard a ſtrange 'kind of noiſe under the water, which bubbled up 'on all ſides, notwithſtanding the ſea was calm, and 'the ſky very clear. About two months before, '*Veſuvio*, *Stronghilo*, and other neighbouring volcanos, burnt more fiercely than ordinary, caſting

'out

'out flames and ſmoak with unuſual violence, and 'in mount *Ætna* the covering form'd by an in-'cruſtation of cinders and pumice-ſtones, which 'lay over the mouth of the large opening broke 'with a horrid noiſe, and fell into that fathomleſs 'pit.

'At laſt, the 11th of *March* 1669 the fire ap-'pear'd, not thro' the wide mouth, or any of the 'former openings, but it rent the earth at two 'miles diſtance from the main mountain, making 'its way thro' three hillocks, call'd *Malpaſſo*, '*Montpeleri*, and *Foſſera*, which lie much lower 'than the large opening, about ten miles from the 'city of *Catana*, and are branches of mount *No-'cillo*. There cannot be conceiv'd a more terrible 'ſight than this was; the earth burſting open of a 'ſudden, with roarings louder and more hideous 'than the united reports of a hundred thunder-'claps! the whole horizon moving to and fro before 'one's eyes! flames borne aloft into the air, in the 'midſt of which was ſeen a fountain of liquify'd 'metals and brimſtone, ſpouting up like water-'works fifteen or twenty foot high!

'From the three hillocks iſſued forth three tor-'rents, which having ran down the declivity ſoon 'united and form'd a vaſt river of fire, more ter-'rible than that, celebrated by the poets, by the 'name of *Phlegeton*. It took its courſe towards '*Catana*, which, as has been ſaid, was about ten 'miles diſtance. In the firſt 24 hours, this fiery 'ſtream ran three miles, but afterwards, it went 'more ſlowly, inſomuch that about the 5th of '*April*, that is, 25 days after its beginning, it 'ſcarce got forwards above 150 120 or 100 paces 'a-day; and it continued thus, for 15 or 20 days, 'advancing every day ſlower and ſlower. The 'cauſe whereof might be this. The farther this 'mineral fluid ſubſtance proceed from the fountain-'head, the colder and conſequently the leſs liquid

'did it grow. Beſides, the declivity not being ſo 'ſteep; the ſtream, beginning to run almoſt upon 'a level, cou'd not flow ſo rapidly as before. The 'breadth of it in ſeveral places was near three 'miles, in others leſs, in proportion to the diffe-'rence of the ground it ran upon, and from time 'to time, it divided into ſeveral branches, which 'afterwards joyn'd again into one. This fiery inun-'dation was ten or twelve foot above the ſurface of 'the earth, and went three or four foot deep be-'neath it. It is needleſs to add, that wherever it 'paſs'd, every thing within the reach of it, was 'deſtroy'd. But what to ſome will appear very 'ſurpriſing is, that at a conſiderable diſtance from 'it, not only trees fell down, but houſes too; the 'reaſon whereof is not very difficult to diſcover. 'For the earth being extraordinarily heated by this 'burning brimſtone wherewith it was impregnated, 'this heat extending itſelf on all ſides burnt up the 'roots of the trees; whereby wanting their proper 'hold, they muſt neceſſarily come to the ground. 'And in the ſame manner, the foundations of houſes 'as well as the earth that ſurrounded them, being 'calcined and reduced to powder, the houſes them-'ſelves muſt needs give way and ſink under their 'own weight. Thus did this torrent roll on as far 'as *Catana*, where it fill'd up the *foſſe*, or dry 'ditch, without penetrating into the town, or doing 'much damage in the neighbourhood of it; for, 'by a peculiar happineſs in ſo bad an accident, at 'length, it took its courſe towards the ſea (as if 'wearied with the ravage it had done) in which 'it mov'd in a viſible ſtream for above a mile, mak-'ing the water near it hiſs and bubble in a ſurpri-'ſing manner.

'Several had the curioſity to examine into the 'nature and ſubſtance of this liquid burning matter. 'It was found to be very heavy, and, when grown 'cold, very hard; in ſome places ſpungy, in others

'ſolid;

'ſolid; and both in colour and figure very much 'reſembling the droſs of iron. The ſalts ſeem'd to 'be of the nature of vitriol, ſalt-petre, and ſalt-'armoniac, with a conſiderable mixture of ſulphur. 'It has been tried upon dogs and other animals, 'in order to ſee if it participated of the nature of 'arſenic, but it was not perceived that theſe crea-'tures were in any pain, or had got any hurt by 'eating of it. Whilſt this matter was flowing, one 'might ſee ſomething like aſhes, ſwimming on its 'ſurface, which, in length of time, being cool'd 'and congeal'd by the air form'd a very hard and 'thick cruſt, under which the liquid matter ſtill 'continued to run. This cruſt was often broke by 'the force of the ſtream, as it was accidentally in-'creas'd by the addition of new matter, the pieces 'whereof ſunk down out of ſight into the ſtream. 'On the ſurface ſwam a great quantity of large 'burnt ſtones, which the people of the country call '*Sciarra*; inſomuch that when the ſtream, in its 'progreſs to the ſea, fill'd the ditches and roſe 'almoſt to the top of the wall of *Catana*, the in-'habitants, at the ſight of theſe vaſt ſtones moving 'towards them, and appearing ſeveral feet above 'the ſtream that bore them, were ſeiz'd with the 'utmoſt conſternation, expecting immediate and 'unavoidable deſtruction. But when they ſaw 'em 'ſtop at the wall, o'erlook it, and as it were 'threaten thoſe that were within it, without doing 'them any further damage, their fears by degrees 'abated and gave way to an agreeable ſurpriſe. 'The prieſts and monks thought this a proper oc-'caſion, to work upon the ſuperſtition and credulity 'of the multitude, perſuading them, that their de-'liverance was the effect of a miracle obtain'd by 'the interceſſion of the Virgin *Mary*, patroneſs of 'the city. But the true reaſon was this; the 'ſtream, as has been ſaid, was not quite ſo high as 'the walls, but the ſtones, being lighter, ſwam

'above the ſurface, and exceeded, by ſeveral feet, 'the walls of the city, but did not go over it; 'they being themſelves ſupported and kept a float, 'by the liquid matter in which they ſwam, which 'had not ſtrength enough to beat down the city 'wall that was very thick, as it had done thoſe of 'farms and country-houſes. Thus, what may very 'often be accounted for by natural cauſes, is, thro' 'the ignorance of the people, and craft of the 'fryars and other ſuch cheats, aſcrib'd, for private 'ends, to the virgin or ſome other favourite ſaint. 'The whole country remain'd fill'd with theſe 'ſtones, and ſo many of them were carry'd into the 'ſea as to encroach upon it, and form a kind of '*mole* in ſeveral parts of the coaſt.

'In thoſe places, where the liquid matter had 'had time to cool and the cruſt to harden, one 'might croſs, with all manner of ſafety, over theſe 'ſtones, which made a ſort of bridge. Never-'theleſs, altho' they appear'd cold on the outſide; 'within they were burning hot, and continued ſo, 'unleſs they were looſened from the heap and ſet a 'cooling. Whilſt the ſtream was flowing, they 'were not unlike ſhoals of ice, carry'd down a 'great river after a hard froſt.

'They differ'd in weight, ſize, and hardneſs, 'and according, as they were more or leſs burnt. 'Some of my acquaintance told me they had put a 'ſtick into the ſtream which was burnt to a coal, 'but not reduced to aſhes; the cauſe whereof I 'take to be the want of flame. Others have tried 'the ſame experiment upon an iron-rod; others 'upon a ſword, which did not melt, but was bro-'ken to pieces up to the hilt, which I look upon 'as an effect of ſaline and ſulphurous particles, 'ſtrongly penetrating the pores of the ſteel, and 'calcining it in an inſtant, as *aqua-fortis* does by 'degrees; and I do not doubt, had they repeated 'the experiment in another part of the ſtream,

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'where the heat was more intenſe, both ſteel and 'iron wou'd have been actually diſſolv'd. Moreover, 'I have read a little treatiſe upon this ſubject, 'wherein it is aſſerted, that a bar of iron, flung 'into the ſtream, was ſeen to melt away like wax.

'The eruption laſted with the utmoſt violence, 'from the 11th of *March*, to the end of *May*, 'about which time it began to decreaſe by degrees, 'and towards the end of *June* it ceas'd intirely. 'Whilſt it laſted; from the opening, whence ran 'the ſtream, inceſſantly iſſued a great flame, that 'aſcended up to the ſkies amidſt thick clouds * of 'ſmoak, which obſcur'd the light of the Sun. 'Numbers of burning ſtones and aſhes were flung 'out at the ſame time; and it is true, tho' hardly 'credible, that ſome of the aſhes were carry'd by 'the wind thirty or forty leagues; not only within 'the iſland, but over the ſtreights into *Calabria*, 'and to ſeveral parts of the ſea, where abundance 'of ſhips were cover'd with this odd kind of rain. 'It is eaſier to imagine than to expreſs the horrour, 'conſternation, deaths, ruins and deſtruction, oc-'caſion'd by this dreadful eruption, this terrifying 'hurricane of fire. Eleven towns or large villages 'were overthrown in ſuch a manner, that the 'remains of 'em are ſcarce viſible; and five and 'thirty more lie in ruins. *Syracuſa* was almoſt 'totally deſtroy'd, and the earth-quake made the 'ſea, to recoil with ſo much impetuoſity, that vaſt 'numbers of fiſh were left upon the beech gaſping 'for water; but the ſea returning with additional 'ſtrength overflow'd the walls of the city and almoſt 'cover'd the citadel.

'*Catana*'s eſcape from ruin in this eruption was 'but a ſhort reſpite: for in 1693 *Sicily* was again 'afflicted with a terrible earthquake. The beau-

* In the Original, *whirl-winds.*

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'tiful plantations and crops of corn in the valley 'of *Nota* were utterly ſpoilt; ſeveral cities were 'ſwallow'd up, inſtead of which appear'd vaſt 'lakes; *Syracuſa* and *Meſſina* were very much da-'mag'd: In a word, above fifty cities, towns or 'villages, were deſtroy'd; and one hundred and 'fifty thouſand perſons loſt their lives.

'When firſt this earthquake was felt, it did no 'great harm; but two days after, at the ſame hour, 'it return'd with ſo much fury and violence, as to 'cauſe in leſs than a quarter of an hour thoſe ter-'rible effects above-mention'd. At *Catana*, out of 'two and twenty thouſand inhabitants, not above 'two thouſand eſcap'd, and thoſe maim'd or 'wounded. The ſea ran back above a mile, car-'rying away eight feluccas, that were in the port. 'The city was almoſt intirely ſwallow'd up, and in 'its room remains a lake four miles round, full of 'ſulphurous water, whence ariſes a very great 'ſtench. At *Aguſta*, the calamity was heightened 'by an unhappy accident. An exhalation of ſul-'phur iſſuing from the earth, that had large cracks 'in above a thouſand places; ſet fire to the maga-'zines in the caſtle, conſum'd all the ſtores and 'amunitions in it, blew up vaſt quantities of balls, 'bullets, bombs and granadoes, mix'd with the 'ſtones, out of the bulwarks, that were torn up 'by this violent exploſion and being thrown a con-'ſiderable diſtance into the ſea; very much da-'mag'd the galleys of *Malta*, that were riding in 'the harbour; and as the ſea recoil'd back, all 'hands were ſet to work, leſt they ſhou'd run a 'ground, as did a ſmall veſſel for want of timely 'aſſiſtance. In ſhort, altho' this earthquake did 'moſt harm in *Sicily*, it was nevertheleſs felt, at 'the ſame time, at *Malta*, and even as far as '*Africa* on one ſide; and on the other, all over '*Calabria*, and up the *Adriatic* ſea, or gulf of '*Venice*. The volcano of *Etna* roar'd ſo loud as

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'to be heard at *Meſſina*. At *Malta*, the air 'appear'd all in fire and every where was diffus'd 'a ſtrong ſmell of brimſtone.

'I ſhall conclude with obſerving; that in the 'year which follow'd this event, earthquakes were 'felt all along the two coaſts of the *Adriatic*, 'whereby was deſtroy'd the city of *Raguſa* [the 'ſeat of a ſmall common-wealth]. And in the 'march of *Ancona*, an intire hill, * with woods, 'farms, and cottages upon it, was, by the earth-'quake, torn from the ground it ſtood upon, and 'carried two miles into the ſea (to compare ſmall 'things with great) as a mine blows up a baſtion.

(*) It is in the territory of *Fermo*, and call'd *Dellegrotte*.

F I N I S.

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